



UNDERGRADUATE BULLETIN 2009

MAE FAH LUANG UNIVERSITY





Undergraduate Bulletin 2009

Mae Fah Luang University Chiang Rai, Thailand

MFU

<http://www.mfu.ac.th>

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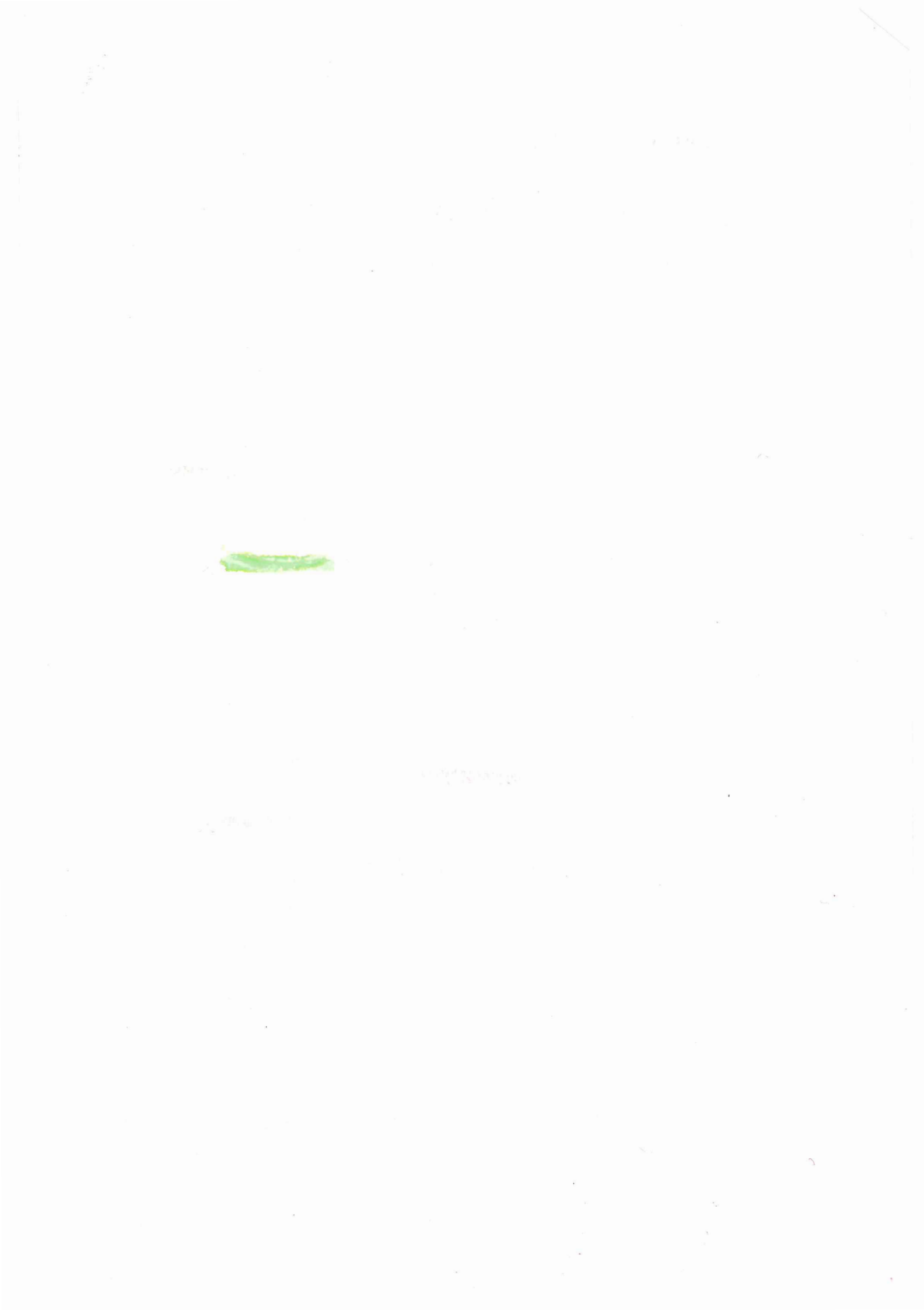
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Background

Mae Fah Luang University (MFU) was established as an autonomous public institution, under the Royal Charter in 1998, with generous financial support from the Royal Thai Government. The University was established to meet the needs of the people of the North of Thailand, and to commemorate the gracious contribution of the King's Mother. From its inaugural class of 64 students in 1998, MFU has become Thailand's fastest growing, post-secondary institution, with an enrollment of 9,000 students in 2009. After just ten years of operation, it is already well-known for the high quality of its teaching, research, and services to the people of the North, and to the country in general.



The campus now consists of a large complex of modern, state-of-the-art buildings spanning more than 405 hectares. Located in a spectacular setting of mountains and trees, the campus is conducive to teaching and learning in a clean, inviting environment. Construction has recently been completed with a new residence and social building for international students, a large modern gymnasium, fitness facilities, and outdoor sports fields. With a purpose of serving as both a national and a regional university, MFU also provides high-quality educational services and resources to the neighbouring countries of the Greater Mekong Sub-region (namely, Lao PDR, Myanmar, Cambodia, Vietnam as well as the Yunnan Province of Southern China).

The philosophy of Mae Fah Luang University is embodied in the intention of the late Princess Mother to foster environmental quality and human resources development. In this regard, the University focuses chiefly on the promotion of environmental quality, the improvement of the quality of life for the disadvantaged through higher education, the building of human capacity, the on-going search for resourceful knowledge, and the promotion and preservation of the cultures and traditions of Thailand and the Greater Mekong Sub-region. As an institution of higher education developed to meet international standards, the University aims to excel in selected academic areas, and has a strong commitment to excellence in teaching, research, academic services to society, technology adaptation, and the promotion of Thai arts and culture. Mae Fah Luang University concentrates on living and learning in an ideal atmosphere and environment, to earn the exclamation: *It is simply the best place to be!*



The University Campus and Accommodation



Mae Fah Laung University has an impressive campus of 405 hectares located on a hill-side of a spectacular mountain range. The campus buildings and Office of the President, constructed in a spacious Northern Thai architectural style surrounded by flower gardens and lakes, form the central point of the campus. Seen from both faculty buildings and classroom buildings is Lan Dao Garden, carefully designed to portray a fountain in the middle of a star encircled by celestial bodies, boasting the majestic statue of the late beloved Princess Mother while directing attention to the central administration building.

In response to rapidly-growing student numbers, the University has increased its accommodation capacity and offers a place to all 4,000 beds for undergraduate students. An International Student Dormitory is also available. The University's attractive residence are just a ten minute walk from the main building. All rooms are fully equipped with basic facilities and internet access. Each dormitory contains a common room, TV room with cable, study room, and recreational area. Students have their own privacy, within a safe, friendly, and lively learning environment.

Admission

MFU is open to application from students worldwide. Applications can be submitted directly to the Admissions Office. Students from universities which have been accredited by an officially recognized education-governing body are able to have their earned credits transferred to MFU for continuing education.

1. Qualifications of Applicants

An applicant must hold an M.6 (high-school) certificate, or a grade-12 certificate, recognized by the Ministry of Education, or one that conforms to other MFU criteria.

2. Documents for Application

- 2.1 A photocopy of an officially recognized high-school certificate or equivalent*
- 2.2 A photocopy of the academic transcript*
- 2.3 A photocopy of the passport or identification card*
- 2.4 4 photographs (2.5 x 3 cm.)

(* Copies of these items must be submitted together with the originals.)

Application forms can be downloaded from the <http://www.mfu.ac.th/division/inter/admission.htm>. For more information please contact:

Division of International Affairs
Mae Fah Laung University
Chiang Rai, 57100 Thailand
Tel : (+66 53) 916 024, 916026
Fax: (+66 53) 916 023
E-mail: inter@mfu.ac.th

URL: <http://www.mfu.ac.th/division/inter>



Academic System

MFU applies the semester system to all programs. The first semester runs from June to September while the second semester is from November to February. The University accepts new students and those with credit transfer requests in both semesters.

Academic Services Center

1. Providing academic services, such as training programs, dissemination of knowledge and publication of research works.
2. Approaching potential customers of such services, as a means of generating income to the University.
3. Offering academic and research services to external organizations.



MFU Book Center

This is a center for distribution and sales of books, educational media and stationary for students, lecturers, university staff as well as general public.



The Center for Learning Resources and Educational and Educational Media

This modern library and learning center utilizes internationally recognized information-technology systems in its services, including the Teaching Development Center, which provides academic services for the community.



Computer Laboratory

This computer laboratory is a center of electronic educational tools to supplement students' learning and training activities.

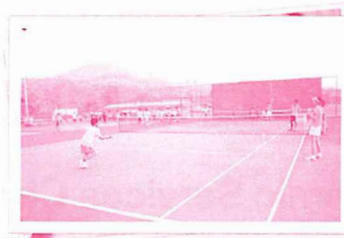
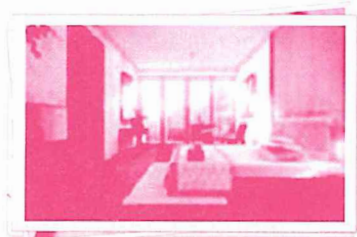


Auditoria and Conference Halls

Mae Fah Luang University's auditoria and conference halls, and are fully equipped with modern audiovisual facilities, can serve both the University and other organizations as venues for seminars, training programs, symposia and conferences.

Indoor Stadium and Sports Center

This is a multi-purpose indoor stadium offering various indoor-sport facilities as well as fitness rooms, open to both MFU staff and the public to promote sports activities and exercise.



Comprehensive health-rehabilitation Center

This centre promotes health-care and physical wellbeing activities. Main services include health-care training, exercising, tourism and academic lectures; moreover, it also serves as a venue for senior tourism majors' internships.

Medical Unit

This on-campus first-aid unit provides the staff and students with preliminary medical treatment by a physician from a provincial hospital, who is stationed at this unit for two days a week; on the other days staff from the Student Development Division are available



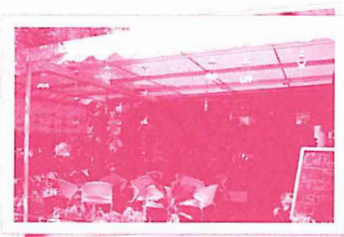
Post Office

A licensed on-campus post office offers post services such as the mailing and receiving of letters and parcels.



Banks

Currently, there are two banks located on campus-Bank of Ayudhaya and Bangkok Bank Public Companies. It is limited-for to staff, students and the public.



Food Centers

The canteens on the second floor of D1 Building and on the ground floor of E1 Building are open from 6 a.m. to 10 p.m. In addition, the Faculty Union cafeteria, is open from morning to evening, and the food shops near '7-ELEVEN', are open from 5-10 p.m. give students and staff a greater variety of dining options.

Programs of Study

Mae Fah Luang University offers degree programs at both the undergraduate and graduate level, English is the medium of instruction in almost all disciplines.

Undergraduate Degree Programs:

School of Liberal Arts

- Bachelor of Arts (English)
- Bachelor of Arts (Business Chinese)
- Bachelor of Arts (Thai Language and Culture)
- Bachelor of Education (Teaching Chinese Language)

School of Management

- Bachelor of Accounting
- Bachelor of Economics
- Bachelor of Business Administration (Business Administration)
- Bachelor of Business Administration (Tourism Management)
- Bachelor of Business Administration (Hospitality Industry Management)
- Bachelor of Business Administration (Aviation Business Management)

School of Law

- Bachelor of Laws

School of Science

- Bachelor of Science (Applied Chemistry)
- Bachelor of Science (Biosciences)

School of Information Technology

- Bachelor of Science (Management of Information Technology)
- Bachelor of Science (Computer Science)
- Bachelor of Science (Software Engineering)
- Bachelor of Science (Multimedia Technology and Animation)
- Bachelor of Engineering (Computer Engineering)
- Bachelor of Engineering (Information and Communication Engineering)

School of Agro-Industry

- Bachelor of Science (Food Technology)
- Bachelor of Science (Technology Management of Agricultural Produces and Packaging)

School of Cosmetic Science

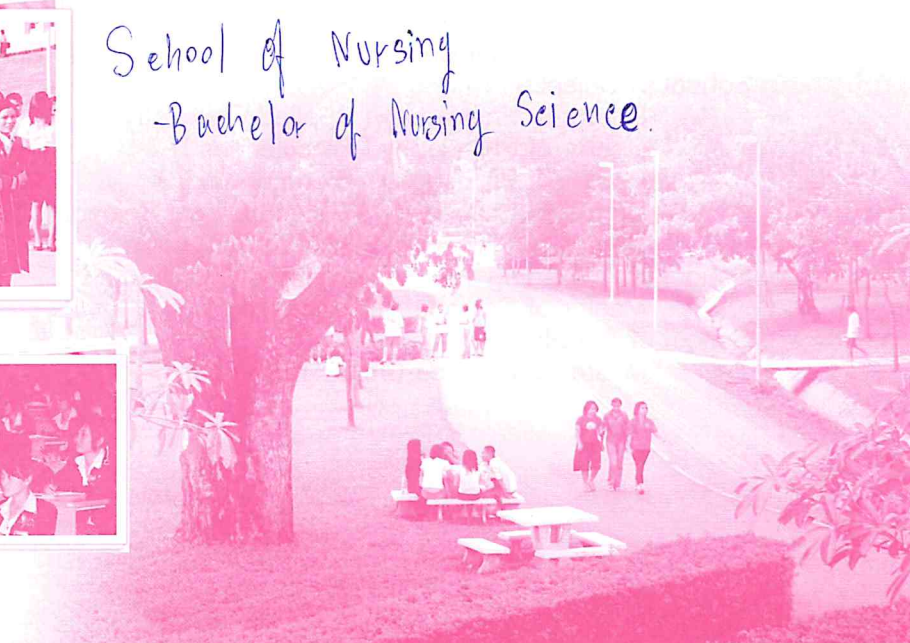
- Bachelor of Science (Cosmetic Science)
- Bachelor of Science (Beauty Technology)

School of Health Science

- Bachelor of Applied Thai Traditional Medicine (Applied Thai Traditional Medicine)
- Bachelor of Physical Therapy
- Bachelor of Public Health — *มหาวิทยาลัยราชภัฏวไลยอลงกรณ์*

-Bachelor of Science (Sport and Health Science)

*School of Nursing
-Bachelor of Nursing Science*



● Graduate Degree Programs:

School of Liberal Arts

- Master of Public Administration
- Master of Education (Education Management)
- Master of Arts (Cultural Studies)
- Master of Arts (Teaching Chinese as a Foreign Language)
- Master of Arts (Translation and Interpretation Chinese-Thai)

School of Management

- Master of Business Administration (Business Administration)
- Master of Business Administration (Logistics and Supply Chain Management)
- Master of Science (Natural Resources and Environmental Management)

School of Law

- Master of Laws

School of Science

- Master of Science (Applied Chemistry)
- Master of Science (Biological Sciences)
- Master of Science (Biotechnology)
- Master of Science (Ceramics Industry Technology)
- Master of Science (Computational Science)
- Master of Science (Materials Science)

School of Information Technology

- Master of Science (Strategic Management Information System)

School of Agro-Industry

- Master of Science (Technology Management of Agricultural Produces)
- Master of Science (Food Technology)

School of Cosmetic Science

- Master of Science (Cosmetic Science)
- Master of Science (Anti-Aging and Regenerative Medicine)

School of Anti-Aging and Regenerative Medicine

- Master of Science (Dermatology)
- Master of Science (Anti-Aging and Regenerative Medicine)
- Master of Science (Anti-Aging and Regenerative Science)

School of Health Science

- Master of Science (Public Health)

● Doctoral Programs:

School of Liberal Arts

- Doctor of Philosophy (Social Sciences)

School of Management

- Doctor of Philosophy (Natural Resources and Environmental Management)

School of Science

- Doctor of Philosophy (Applied Chemistry)
- Doctor of Philosophy (Biosciences)
- Doctor of Philosophy (Biotechnology)
- Doctor of Philosophy (Computational Science)
- Doctor of Philosophy (Materials Science)

School of Anti-Aging and Regenerative Medicine

- Master of Science (Dermatology)

School of Agro-Industry

- Master of Science (Food Technology)



School of Liberal Arts

- **English**
- **Business Chinese**
- **Thai Language and Culture**
- **Teaching Chinese Language**

School of Liberal Arts

Mae Fah Luang University

The School of Liberal Arts, Mae Fah Luang University, was established with the primary mission to promote quality instruction, research, academic services, art and cultural preservation, and most importantly, the development of graduates with a high level of English language proficiency. It is our resolute intention both to excel in the teaching of English, Chinese, Japanese, and French and to emphasize the importance of information technology, which has become a worldwide occupational requirement. Our responsibilities also include the customization of our general education program to enhance students' learning in sociocultural, economic, political, environmental, and health-hygiene areas, which serve as a basis on which other professional courses are pursued.

At present, the School of Liberal Arts offers bachelor's degree programs in English and Business Chinese, Thai Language and Culture (for Non-Thai Speakers) and Teaching Chinese Language, as detailed below.

Bachelor of Arts in English

This program primarily aims to develop graduates to be proficient in English as well as skillful in operating internationally utilized information technology systems; to think, put ideas into practice, and solve problems, and to maintain professional ethics in order to move the nation towards comprehensively sustainable development and towards an international role.

Bachelor of Arts in Business Chinese

The primary aim of this program is to produce graduates who possess Chinese-language fluency and business-administration skills in addition to English communication ability, so as to enable them to pursue careers or conduct business successfully, responsibly, and ethically.

Bachelor of Arts in Thai Language and Culture (for Non-Thai Speakers)

The principal objectives of this program are: 1) to produce graduates with advanced Thai-language listening, speaking, reading, writing and communicative skills, 2) to prepare graduates with ability to use Thai for both business and technological purposes, and 3) to prepare graduates with knowledge of Thai culture, through whom Thai culture can be disseminated.

Bachelor of Education in Teaching Chinese Language

This programme aims to produce qualified graduates who can teach Chinese at elementary, secondary, vocational levels and teach Chinese to other people and seek for more knowledge in Chinese, Chinese culture and language develop themselves; maintain good attitude toward the teaching career and have wit, wisdom, critical thinking; know how to solve problems and good citizens of the nation; have morals and ethics in their careers and be good citizens.



Bachelor of Arts Program in English

B.A.(English)

Total Credit

1. General Education Courses
2. Specific Requirement Courses
 - 2.1 Core Courses
 - 2.2 Major Required Courses
 - 2.3 Major Elective Courses
3. Free Elective Courses

135 Credits

33 Credits

96 Credits

21 Credits

57 Credits

18 Credits

6 Credits

1. General Education Courses

33 Credits

Cr(Le-Pr-SS)*

1001101	Man and Society	2 (2-0-4)
1001102	Environment and Development	2 (2-0-4)
1001103	Thai Language Skills	2 (2-0-4)
1001111	Cultural Studies	2 (2-0-4)
1001112	Logical Thinking	2 (1-2-3)
1001121	Recreation and Sport for Well-Being	1 (0-2-1)
1001131	World Community	2 (2-0-6)
1006194	English for Academic Purposes 1	3 (2-3-5)
1006195	English for Academic Purposes 2	3 (2-3-5)
1006290	English for Academic Purposes 3	3 (2-3-5)
1101100	Science for Life	3 (3-0-6)
1106100	Mathematics for Life	3 (3-0-6)
1203141	Organization and Management	2 (2-0-4)
1301104	Introduction to Information Technology	3 (2-2-5)

2. Specific Requirement Courses

96 Credits

2.1 Core Courses

21 Credits

Cr(Le-Pr-SS)*

1001119	Thai language Writing Practice	3 (3-0-6)
1006197	Computer-Assisted Language Learning	3 (2-2-5)
1202114	Introduction to Economics	3 (3-0-6)
1203241	Organization Behavior	3 (3-0-6)
1301341	Office Automation Management	3 (2-2-5)
1301383	Electronic Commerce	3 (3-0-6)
1601101	Introduction to Legal Principles	3 (3-0-6)

2.2 Major Required Courses

57 Credits

Cr(Le-Pr-SS)*

1006196	Introduction to English Linguistics	3 (3-0-6)
1006198	Listening and Speaking 1	3 (3-0-6)
1006199	Listening and Speaking 2	3 (3-0-6)
1006294	Writing 1	3 (3-0-6)
1006295	English Literature 1	3 (3-0-6)
1006296	English Syntax	3 (3-0-6)
1006297	Reading 1	3 (3-0-6)
1006298	Reading 2	3 (3-0-6)
1006299	English Phonetics	3 (3-0-6)
1006393	Principles of Translation	3 (3-0-6)
1006394	Writing 2	3 (3-0-6)
1006395	Writing 3	3 (3-0-6)
1006396	Cross-cultural Communication	3 (3-0-6)
1006397	Comparative Study of English and Thai	3 (3-0-6)
1006398	English Literature 2	3 (3-0-6)
1006491	Co-operative Education	6 (0-40-12)
	or	
1006492	Overseas Training	6 (0-40-12)
1006498	Senior Project	3 (3-0-6)
1006499	Seminar in Contemporary Issues	3 (3-0-6)

2.3 Major Elective Courses

	Select from the following	18 Credits Cr(Le-Pr-SS)*
1006182	Introduction to Sociolinguistics	3 (3-0-0)
1006207	English for Business and Technology 1	3 (3-0-0)
1006208	English for Business and Technology 2	3 (3-0-0)
1006283	Introduction to Morphology	3 (3-0-0)
1006291	English for Airline Business	3 (3-0-0)
1006292	English for Tourism	3 (3-0-0)
1006293	English for Hotel Management	3 (3-0-0)
1006300	English for Secretaries	3 (3-0-0)
1006309	English Through Newspaper	3 (2-1-0)
1006353	English for The Greater Maekong Subregion (GMS)	3 (3-0-0)
1006365	Understanding Cultures Through Cinema	3 (3-0-0)
1006380	History of the English-Speaking World	3 (3-0-0)
1006390	Selected Topics in Literature	3 (3-0-0)
1006391	English in Mass Communication	3 (3-0-0)
1006392	Business Writing	3 (3-0-0)
1006399	Studies in Speculative Fiction	3 (3-0-0)
1006401	Mythology	3 (3-0-0)
1006495	News Translation	3 (3-0-0)
1006496	Principles of English Language Teaching	3 (3-0-0)

3. Free Elective Courses not less than

		6 Credits Cr(Le-Pr-SS)*
xxxxxxx	Free Elective	3 (3-0-6)
xxxxxxx	Free Elective	3 (3-0-6)

At least six credits of free electives can be chosen from any course offered by Mae Fah Luang University

* Cr : Credit
Le : Lecture
Pr : Practice
SS : Self Study



Bachelor of Arts Program in Business Chinese

B.A.(Business Chinese)

Total Credit

1. General Education Courses	31 Credits
2. Specific Requirement Courses	96 Credits
2.1 Core Courses	24 Credits
2.2 Major Required Courses	60 Credits
2.3 Major Elective Courses	12 Credits
3. Free Elective Courses	6 Credits

1. General Education Courses

1. General Education Courses		31 Credits Cr(Le-Pr-SS)*
1001101	Man and Socceity	2 (2-0-4)
1001103	Thai Language Skills	2 (2-0-4)
1001111	Cultural Studies	2 (2-0-4)
1001112	Logical Thinking	2 (1-2-3)
1001121	Recreation and Sport for Well-Being	1 (0-2-1)
1001131	World Community	2 (2-0-4)
1001132	Politics and Government	3 (3-0-6)
1006217	English for Communication	3 (2-3-5)
1006218	Academic Reading and Writing	3 (2-3-5)
1006301	College Writing	2 (2-0-4)
1006302	Academic Oral Skills	2 (2-0-4)
1006303	English for Professional Purposes	1 (0-2-1)
1006303	English for Professional Success	1 (0-2-1)
1203141	Organization and Management	2 (2-0-4)
1301104	Introduction to Information Technology	3 (2-2-5)

2. Specific Requirement Courses

96 Credits

2.1 Core Courses

24 Credits
Cr(Le-Pr-SS)*

1006111	Basic Listening and Speaking	3 (3-0-6)
1006112	Listening and Speaking for Communication	3 (3-0-6)
1006221	Academic Reading	3 (3-0-6)
1006233	Prose Writing	3 (3-0-6)
1202114	Introduction to Economics	3 (3-0-6)
1203132	Principles of Business Management	3 (3-0-6)
1203133	Business Management	3 (3-0-6)
1203332	Business Venture and Entrepreneurship	3 (3-0-6)

2.2 Major Required Courses

60 Credits
Cr(Le-Pr-SS)*

1007107	Introduction to China	3 (3-0-6)
1007108	Chinese Computer	3 (3-0-6)
1007201	Chinese Grammar	3 (3-0-6)
1007202	Chinese History	3 (3-0-6)
1007203	Applied Classical Chinese	3 (3-0-6)
1007204	Overseas Chinese Community	3 (3-0-6)
1007205	China and Her International Relations	3 (3-0-6)
1007220	Business Chinese Conversation	3 (3-0-6)
1007221	Conversation and Discussion on Chinese Culture	3 (3-0-6)
1007250	Survey to Chinese Literature	3 (3-0-6)
1007251	Chinese Philosophy	3 (3-0-6)
1007330	Chinese Newspaper Reading	3 (3-0-6)
1007331	Business Chinese Reading	3 (3-0-6)
1007341	Business Chinese Writing	3 (3-0-6)
1007367	Chinese for Public Relations	3 (3-0-6)
1007410	Chinese Listening from Audio-Visual Aids	3 (3-0-6)
1007442	Report Writing in Chinese	3 (3-0-6)
1007470	Business Chinese Translation	3 (3-0-6)
1007480	Seminar	3 (3-0-6)
1007490	Co-operative Education	3 (0-35-6)

2.3 Major Elective Courses

12 Credits
Cr(Le-Pr-SS)

	Select from the following	
1007401	Sino-Thai Relationships	3 (3-0-6)
1007402	Introduction to Chinese Investment Law	3 (3-0-6)
1007422	Chinese Public Speaking	2 (1-2-3)
1007443	Chinese Calligraphy	1 (0-2-1)
1007450	Chinese Moral Tales and Proverbs	3 (3-0-6)
1007461	Chinese for Secretarial Work	3 (3-0-6)
1007462	Chinese for Tourism	3 (3-0-6)
1007463	Chinese for Tour Guides	3 (3-0-6)
1007464	Chinese for Hotel Business	3 (3-0-6)
1007465	Chinese for Finance and Banking	3 (3-0-6)
1007466	Chinese for International Trade	3 (3-0-6)

3. Free Elective Courses not less than

6 Credits
Cr(Le-Pr-SS)

xxxxxxx	Free Elective	3 (3-0-6)
xxxxxxx	Free Elective	3 (3-0-6)

At least six credits of free electives can be chosen from any course offered by Mae Fah Luang University.

- * Cr : Credit
Le : Lecture
Pr : Practice
SS : Self Study



Bachelor of Arts Program in Thai Language and Culture (for Non-Thai Speakers)

Total Credit	141 Credits
1.Thai Language Foundation Courses	18 Credits
2.General Education Courses	30 Credits
3.Specific Requirement Courses	87 Credits
3.1 Core Courses	18 Credits
3.2 Major Required Courses	54 Credits
3.3 Major Elective Courses	15 Credits
4.Free Elective Courses	6 Credits

1. Thai Language Foundation Courses	18 Credits
	Cr(Le-Pr-SS)*
1005111 Basic Thai 1	9 (6-9-15)
1005112 Basic Thai 2	9 (6-9-15)

2. General Education Courses	30 Credits
	Cr(Le-Pr-SS)*
1001101 Man and Society	2 (2-0-4)
1001102 Environment and Development	2 (2-0-4)
1001121 Recreation and Sport for Well-Being	1 (0-2-1)
1001131 World Community	2 (2-0-4)
1001141 General Psychology	3 (3-0-6)
1001142 Introduction to Thai Culture	2 (2-0-4)
	For Non-Thai Speakers
1006217 English for Communication	3 (2-2-5)
1006218 Academic Reading and Writing	3 (2-2-5)
1006301 College Writing	2 (2-0-4)
1006302 Academic Oral Skills	2 (2-0-4)
1006303 English for Professional Purposes	1 (0-2-1)
1006304 English for Professional Success	1 (0-2-1)
	For English Native Speakers
1007101 Chinese 1	3 (3-0-6)
1007102 Chinese 2	3 (3-0-6)
1008105 Basic Japanese 1	3 (2-3-5)
1008106 Basic Japanese 2	3 (2-3-5)
1106100 Mathematics for Life	3 (3-0-6)
1301104 Introduction to Information Technology	3 (2-2-5)

3. Specific Requirement Courses	87 Credits
3.1 Core Courses	18 Credits
	Cr(Le-Pr-SS)*
1005311 Characteristics of Thai	3 (3-0-6)
1005312 Thai Language Skills for Communication	3 (2-2-5)
1005371 Introduction to Thai Literature	3 (3-0-6)
1005372 Introduction to Contemporary Thai Literature	3 (3-0-6)
1005431 Thai Newspaper Reading	3 (2-2-5)
1005481 Introduction to Project Writing	3 (3-0-6)

3.2 Major Required Courses	54 Credits
	Cr(Le-Pr-SS)*
1005121 Thai Language Conversation in Daily Life	3 (2-2-5)
1005122 Conversation in Various Situations	3 (2-2-5)

1005232	Analytical Reading	3 (2-2-5)
1005241	Introduction to Thai Writing	3 (2-2-5)
1005242	Writing for Communication	3 (2-2-5)
1005262	Thai Language and Culture	3 (3-0-6)
1005321	Conversation in Business Thai	3 (2-2-5)
1005322	Thai in Audio Visual Media	3 (2-2-5)
1005341	Business Writing	3 (2-2-5)
1005361	Thai Ways of Life	3 (2-2-5)
1005362	Thai Language and Society	3 (3-0-6)
1005461	Introduction to Thai History	3 (3-0-6)
1005482	Senior Project	6 (0-18-6)

3.3 Major Elective Courses

15 Credits
Cr(Le-Pr-SS)*

1005313	Thai Dictionary	3 (3-0-6)
1005331	Reading for Evaluation	3 (2-2-5)
1005332	Reading Contemporary Thai Literatures	3 (3-0-6)
1005342	Critical Writing	3 (2-2-5)
1005351	Introduction to Translation	3 (3-0-6)
1005413	Thai for Tourism	3 (3-0-6)
1005414	Orality and Litteracy Language	3 (3-0-6)
1005421	Introduction Thai Speaking	3 (3-0-6)
1005422	Public Speaking	3 (3-0-6)
1005451	Specialized Translation	3 (3-0-6)
1005462	Thai Idioms and Proverbs	3 (3-0-6)
1005463	Thai Folk Arts	3 (3-0-6)
1005471	Thai Folktales	3 (3-0-6)
1005472	Introduction to Thai Poetry	3 (3-0-6)
1005473	Literary Language	3 (3-0-6)

3. Free Elective Courses not less than

6 Credits
Cr(Le-Pr-SS)

xxxxxxx	Free Elective	3 (3-0-6)
xxxxxxx	Free Elective	3 (3-0-6)

At least six credits of free electives can be chosen from any course offered by Mae Fah Luang University.

* Cr : Credit
Le : Lecture
Pr : Practice
SS : Self Study



Bachelor of Education Program in Teaching Chinese Language B.Ed. (Teaching Chinese Language)

Total Credit	166	Credits
1. General Education Courses	31	Credits
2. Specific Requirement Courses	129	Credits
2.1 Core Courses	51	Credits
2.2 Major Required Courses	78	Credits
3. Free Elective Courses	6	Credits
 1. General Education Courses	 31	 Credits
	Cr(Le-Pr-SS)*	
1001101 Man and Society	2 (2-0-4)	
1001103 Thai Language Skills	2 (2-0-4)	
1001111 Cultural Studies	2 (2-0-4)	
1001112 Logical Thinking	2 (1-2-3)	
1001121 Recreation and Sport for Well-Being	1 (0-2-1)	
1001131 World Community	2 (2-0-4)	
1001132 Politics and Government	3 (3-0-6)	
1006217 English for Communication	3 (2-3-5)	
1006218 Academic Reading and Writing	3 (2-3-5)	
1006301 College Writing	2 (2-0-4)	
1006302 Academic Oral Skills	2 (2-0-4)	
1006303 English for Professional Purposes	1 (0-2-1)	
1006303 English for Professional Success	1 (0-2-1)	
1203141 Organization and Management	2 (2-0-4)	
1301104 Introduction to Information Technology	3 (2-2-5)	
 2. Specific Requirement Courses	 129	 Credits
2.1 Core Courses	51	Credits
	Cr(Le-Pr-SS)*	
1014221 Learning Technology	3 (2-2-5)	
1014222 Principles of Education and Teaching Profession	3 (3-0-6)	
1014223 Educational Psychology	3 (3-0-6)	
1014314 Teaching-Learning Process	3 (3-0-6)	
1014315 Teaching Observation	3 (0-12-3)	
1014316 Principles of Chinese Teaching	3 (3-0-6)	
1014317 Guidance and Counseling Psychology	3 (3-0-6)	
1014318 Practical Experience	3 (0-12-3)	
1014319 Classroom and School Management	3 (2-2-5)	
1014418 Curriculum Development	3 (3-0-6)	
1014419 Analysis and Application of Chinese Teaching Materials	3 (3-0-6)	
1014420 Educational Assessment and Evaluation	3 (2-2-5)	
1014421 Education and Classroom Research	3 (2-2-5)	
1014501 Teaching Professional Practicum 1	6 (0-40-12)	
1014502 Teaching Professional Practicum 2	6 (0-40-12)	
2.2 Major Required Courses	78	Credits
	Cr(Le-Pr-SS)*	
1014108 Fundamental of Mandarin Chinese	6 (4-4-10)	
1014109 Everyday Use of Mandarin Chinese	6 (4-4-10)	
1014110 Intermediate Chinese Writing	6 (4-4-10)	
1014111 Mandarin Chinese Conversation	6 (4-4-10)	
1014214 Mandarin Chinese Reading 1	3 (3-0-6)	
1014215 Sound System of Mandarin Chinese	3 (3-0-6)	
1014216 Mandarin Chinese Grammar 1	3 (3-0-6)	
1014217 Chinese Morphology	3 (3-0-6)	
1014218 Chinese Proverbs and Idioms	3 (3-0-6)	

1014219	Mandarin Chinese Reading 2	3 (3-0-6)
1014220	Mandarin Chinese Grammar 2	3 (3-0-6)
1014309	Evolution of Chinese Characters	3 (3-0-6)
1014310	Applied Ancient Chinese	3 (3-0-6)
1014311	Chinese Culture and Traditions	3 (3-0-6)
1014312	Geography of China	3 (3-0-6)
1014313	Chinese Writing Skill	3 (3-0-6)
1014412	Chinese History 1	3 (3-0-6)
1014413	Chinese Politics	3 (3-0-6)
1014414	Chinese Economy	3 (3-0-6)
1014415	Chinese Philosophy	3 (3-0-6)
1014416	Chinese Newspaper Reading	3 (3-0-6)
1014417	Chinese History 2	3 (3-0-6)

3 Free Elective Courses not less than

6 Credits

Cr(Le-Pr-SS)*

xxxxxxx	Free Elective	3 (3-0-6)
xxxxxxx	Free Elective	3 (3-0-6)

At least six credits of free electives can be chosen from any course offered by Mae Fah Luang University.

* Cr : Credit
 Le : Lecture
 Pr : Practice
 SS : Self Study

Descriptions ::

School of Liberal Arts

1001101 Man and Society

2 (2-0-4)

Prerequisite: None

Behavior and role of human in relation to natural and social environment.

1001102 Environment and Development

2 (2-0-4)

Prerequisite: None

Natural resources and environment as affecting national development and quality of life social; consciousness of environment problem; social awareness, ethics and decision making on environmental problem issues for sustainable development.

1001103 Thai Language Skills

2 (2-0-4)

Prerequisite: None

The use of contemporary Thai language; skill in reading, writing, speaking and listening for developing language competency.

1001111 Cultural Studies

2 (2-0-4)

Prerequisite: None

Meaning and concept of culture; geographical background; culture areas, ethnic minorities, characteristics of Thai society and culture, assimilation and acculturation in Thai society.

1001112 Logical Thinking

2 (1-2-3)

Prerequisite: None

Thinking process in relation to deductive and inductive reasoning, creative thinking and language expression information technology for knowledge acquisition.

1001113 Arts Appreciation

3 (3-0-6)

Prerequisite: None

Meaning, concepts and values of aesthetics; man in relation to arts creativeness including visual arts, music and dramatics arts; form, contents and appreciation of various.

1001115 Arts of Speech

3 (3-0-6)

Prerequisite: None

Principles and arts of speech in various studies; speech evaluation for skill development; speech training for appropriateness and social norms in different situation.

1001116 Thai Language Writing Skill

3 (3-0-6)

Prerequisite: None

Fundamental writing skill for composition, article, newsletter, summary, abstract report, correspondence and pamphlet.

1001117 Thai Reading

3 (3-0-6)

Prerequisite: None

Introduction to reading for main idea, analytical reading and inferencing, critical reading, reading fiction and non-fiction, reading for evaluation.

1001118 Thai Language for Non-Thai Speakers

2 (2-0-4)

Prerequisite: None

Introduction to Thai language, speaking Thai pronunciation: Vocabulary, basic Thai structures, Thai custom and culture, local culture, local dialect, custom and culture.

1001119 Thai Language Writing Practice

3 (3-0-6)

Prerequisite: None

A study of fundamentals of writing, process of writing, diction, sentence formation, use of idioms and expressions, paragraph structure, organization of paragraphs, expressive writing, informative writing, critical writing, summary writing and essay writing.

- 1001121 Recreation and Sport for Well-Being** **1 (0-2-1)**
Prerequisite: None
 Introduction to sport and recreation; testing of physical fitness; selecting of appropriate methods of exercise; rule and basic training of certain selected sport, recreational activities and exercises in daily life.
- 1001122 Personal and Community Health** **2 (2-0-4)**
Prerequisite: None
 Health and illness of man and community factors affecting health status; healthy life and life and life style; family health care; health care system; community health prevention and promotion.
- 1001123 Physical and Mental Health for Life** **3 (2-2-5)**
Prerequisite: None
 Emphasis is on the development of knowledge, principle and methodology, in training mind and body for healthy living, including principle of exercises, application on the basic of body structure and alternative medicine to take care of mind and body to strengthen immune system for well-being.
- 1001124 Golf** **2 (1-3-3)**
Prerequisite: None
 To study the history, usefulness and the importance of the basic skill of golf. To obtain knowledge and understanding of the rules and techniques used when playing golf. Students will also learn how to care for their equipment and to perceive how golf can enrich our live and be beneficial to our health.
- 1001126 Fitness and Exercise for Life** **3 (1-4-4)**
Prerequisite: None
 The importance and value of physical fitness, healthiness and wellness, the application of physical fitness test, the principles of physical fitness improvement as well as knowledge regarding fundamental sport science (anatomy, exercise physiology, bio-mechanic, sport psychology and exercise, sport nutrition and sport injury), health problems, principles of exercise for health applicable for the development of sound and sustainable programs regarding exercising and health caring as far as physical condition, age, sexes are concerned.
- 1001131 World Community** **2 (2-0-4)**
Prerequisite: None
 Key actors in current world community; economic social and political world order, relationships among member of international community; globalization and its impacts on asia and thailand; regional and inter-regional cooperation, relationship among asean member-state, intra-regional relation, particularly northern thailand and its neighbors.
- 1001132 Politics and Government** **3 (3-0-6)**
Prerequisite: None
 Evolution of political theory and administration; structure of political systems ; international relations; constitution and election laws.
- 1001134 Peace Studies** **3 (3-0-6)**
Prerequisite: None
 Conflict analysis and peaceful solutions as local and international levels reading to social justice and human rights; integration political, social, historical and philosophical issues.
- 1001141 General Psychology** **3 (3-0-6)**
Prerequisite: None
 Introduction to general psychology, with aspects of cognitive development and its significant factors, related to human behavior and present society; background psychology including human brain functions, development of memory, role of knowledge, problem solving and thinking, intelligence quotient and emotion quotient.
- 1001142 Introduction to Thai Culture** **2 (2-0-4)**
Prerequisite: None
 Meaning and concepts regarding Thai cultures including fundamental knowledge regarding the Thai geography and history, typical Thai personalities, ways of living diversified according to different regions, religions and beliefs, monarchy, traditions as well as contemporary behaving.

1001301 Lanna Studies**3 (3-0-6)***Prerequisite: None*

Geography, environment and cultural ecology of northern region; the foundation of Lanna society and culture; the development of Lanna culture in prehistoric age; Lanna history in the mythical age; Lanna history in the kingdom age; Lanna history in the vassal state age; Lanna social and cultural system; Lanna local wisdoms and folk arts; the various ethnic groups in Lanna; and the contemporary socio-cultural and environmental problems of the northern region.

1001302 Human Relations**3 (3-0-6)***Prerequisite: None*

Introduction to the theory and practice of effective human relations; explain application of psychological principles of human behavior; help students understand themselves and others; analyze how to build good public relations and intimate relationships.

1001303 Community Studies**3 (3-0-6)***Prerequisite: None*

A study of the definition and concept of community studies; structure of community and society; institution and social relation; characteristics and elements of urban and rural communities; desired characteristics of an ideal community; problem in community development; roles of community organizations in developing.

1001304 The Study of Language**3 (3-0-6)***Prerequisite: None*

The nature and the functions of language, writing systems, the sounds and sound patterns of language, the morphemes and words of language, the syntactic structures of language, the meaning of language, language variation and change.

1001305 Eastern Philosophy**3 (3-0-6)***Prerequisite: None*

Meaning, scope and basic problems of eastern philosophy; Indian philosophy on the concept of Purusartha; Indian materialism; Vedic culture of Brahmanical culture; Sramana culture; Chinese philosophy of on the wisdom of Taoism. Confucianism, Mo Tzu, Hsun Tzu and Han Fei Tzu; some issues in applied eastern philosophy.

1001308 Information Literacy Skill**3 (3-0-6)***Prerequisite: None*

Basic concepts of information literacy; indentifying information needs; locating and accessing the needed information; evaluating information and its sources; collecting and organizing information; using information appropriately and creatively.

1001309 Social Psychology**3 (3-0-6)***Prerequisite: None*

An introduction to psychology of social behavior including social cognition, attitude formation and change, interpersonal relations, group processes and social influence. Integration of theory and empirical research as related to social behaviors and social problems. The implication of social psychology to social functions, law, business and health.

1001310 Eastern Civilization**3 (3-0-6)***Prerequisite: None*

A survey of the birth and diffusion of eastern civilizations, including Indian civilization, Chinese civilization, Japanese civilizations, Korean civilizations and Southeast Asian civilizations, with attention to major cultural, social, economic and political trends within each civilizations studied, with a framework of civilizations in Asia.

1001311 Western Civilization**3 (3-0-6)***Prerequisite: None*

A survey of the birth and diffusion of western civilizations from Hellenic civilization to the industrial revolution age with attention to major cultural, social, economic and political trends within each civilization studied with a framework of Greek, Roman and European civilizations.

1001314 Public Sector Management**3 (3-0-6)***Prerequisite: None*

Definitions, scope, concepts and theories in public administration and public sector management, development and study approaches, comparative public administration, Thailand's bureaucratic system, central administration and regional administration, local administration including concepts and directions of new public management.

1005111 Basic Thai 1**9 (6-9-15)***Prerequisite: None*

Background knowledge of linguistics applicable for Thai language acquisition – phonology, morphology, Thai alphabets, reading, writing, speaking, three-classed consonant groups, simple Thai sentence forming, daily conversation creating.

1005112 Basic Thai 2**9 (6-9-15)***Prerequisite: None*

Advanced reading and writing lexical items, homophones, sound-omitted markers, listening and conversing various stories, finding main ideas, showing opinions through simple sentences formed graphically and verbally, learning advanced Thai syntax.

1005121 Thai Language Conversation in Daily Life**3 (2-2-5)***Prerequisite: None*

Daily conversation in the Thai language regarding greeting, self-introducing, counting, time telling, food ordering, shopping, expressing, traveling.

1005122 Conversation in Various Situations**3 (2-2-5)***Prerequisite: None*

Thai conversations in different situations regarding offering and receiving services, going to hospital, applying for visas, describing tourist attractions and outstanding personnel of Thailand.

1005221 Conversation on Current Issues**3 (2-2-5)***Prerequisite: None*

The application of expressions acquired from media regarding catching main ideas from various media like radio and TV, presenting main points, opinions derived from news, dramas, movies or books.

1005222 Conversation on Selected Topics**3 (2-2-5)***Prerequisite: None*

Discussion and exchange idea of interests regarding the Thai social, cultural, economic, political or historical aspects in comparison with those of neighboring countries or those countries of the students' interests.

1005223 Listening Comprehension**3 (2-2-5)***Prerequisite: None*

Principles of listening for gist dealing with various styles of listening comprehension with the application of communication, contents, objectives, types and levels of language.

1005231 Reading Comprehension**3 (2-2-5)***Prerequisite: None*

Principles of listening for gist dealing with various styles of listening comprehension with the application of skimming, scanning through various writing works.

1005232 Analytical Reading**3 (2-2-5)***Prerequisite: None*

Principles of analytical reading and writing works dealing with contents, construction, language application, facts and opinions derived from features and recreational articles.

1005241 Introduction to Thai Writing**3 (2-2-5)***Prerequisite: None*

Principles of lexical items selection, phrases and simple sentences forming, memos and short paragraphs writing when presenting daily activities, self-introduction as well as interesting things.

- 1005242 Writing for Communication 3 (2-2-5)**
Prerequisite: None
 Principles of writing communication dealing with analyzing good writing works, styles, sentence structures, word and expression application as well as ideas sequence meaningful to effective writing works.
- 1005262 Thai Language and Culture 3 (3-0-6)**
Prerequisite: None
 Correlation of language and cultures dealing with visions of the Thai people.
- 1005311 Characteristics of Thai 3 (3-0-6)**
Prerequisite: None
 Typical characteristics of the Thai language including phonology, morphology, word forming, parts of speech, sentences and phrases.
- 1005312 Thai Language Skills for Communication 3 (2-2-5)**
Prerequisite: None
 Current Thai language usage including the integration of four language skills – listening, speaking, reading and writing – applicable for daily life activities, the accessed information applicable for the process of thinking development, the selection of appropriate words and sentences concerning social and cultural contexts of Thailand.
- 1005313 Thai Dictionary 3 (3-0-6)**
Prerequisite: None
 Types and application of Thai dictionary, dictionary content sequencing and information providing dealing with definitions, phonetics, derivations, parts of speech, technical terms, references.
- 1005321 Conversation in Business Thai 3 (2-2-5)**
Prerequisite: None
 Lexical items and expressions applicable for effective business transactions, discussions as well as presentation.
- 1005322 Thai in Audio Visual Media 3 (2-2-5)**
Prerequisite: None
 Accession to information via various types of media dealing with gist citing, analyzing, interpreting, evaluating and opinion expressing over the information accessed verbally and graphically.
- 1005331 Reading for Evaluation 3 (2-2-5)**
Prerequisite: None
 Reading for evaluation dealing with reading critically, evaluating various types of writing works concerning with content, words, and styles applicable for the purpose.
- 1005332 Reading Contemporary Thai Literatures 3 (3-0-6)**
Prerequisite: None
 Introduction of Thai literatures development dealing with reading short stories and novels as well as the correlation of literatures and society.
- 1005341 Business Writing 3 (2-2-5)**
Prerequisite: None
 Principles for business writing dealing with information providing, generalizing and report writing, various memos and business letters as well as minutes writing.
- 1005342 Critical Writing 3 (2-2-5)**
Prerequisite: None
 Critical writing dealing with articles and events of different situations, criticizing working works both verbally and graphically.
- 1005351 Introduction to Translation 3 (3-0-6)**
Prerequisite: None
 Principles of fundamental translation and the analysis over the differences between the Thai language and the mother-tongued language of the students concerning with the appropriateness of social and cultural aspects.

1005361 Thai Ways of Life**3 (2-2-5)***Prerequisite: None*

The development of Thai society and ways of living dealing with natures, beliefs, thoughts and visions, the influence of regions on the social and cultural aspects as well as local wisdoms of Thailand.

1005362 Thai Language and Society**3 (3-0-6)***Prerequisite: None*

The correlation of Thai language and society dealing with the diversity of languages in the Thai society, the development of the Thai language resulting from the current social, economic and cultural aspects of Thailand.

1005371 Introduction to Thai Literature**3 (3-0-6)***Prerequisite: None*

Background of the Thai literature regarding contents and values of the Thai literature works in different periods of Sukhothai, Ayudhaya, Thonburi and early Rattanakosin.

1005372 Introduction to Contemporary Thai Literature**3 (3-0-6)***Prerequisite: None*

Background and the development of Thai literature works of different times ranging from those of King Rama V to those of the present time.

1005413 Thai for Tourism**3 (3-0-6)***Prerequisite: None*

The study of Thai language applicable for tourism dealing with lexical items and expressions as well as technical terms in the areas of art, cultures and ritual practices.

1005414 Orality and Litteracy Language**3 (3-0-6)***Prerequisite: None*

Meaning and the importance of verbally and graphically different levels of Thai language applicable for the communication of various kinds.

1005421 Introduction Thai Speaking**3 (0-0-6)***Prerequisite: None*

Introduction to Thai speech dealing with types of speech delivery regarding accurate as well as effective and achievement-oriented self-introducing, narrating, telephoning and interviewing.

1005422 Public Speaking**3 (3-0-6)***Prerequisite: None*

Types of public speaking dealing with presentation, master of ceremony, gathering, speech as well as the evaluation over and the betterment of the public speaking conducted.

1005431 Thai Newspaper Reading**3 (2-2-5)***Prerequisite: None*

Thai language usage applicable for news headlines, sub-headlines, editorial articles, news formats, news reports and Thai news interpretation.

1005451 Specialized Translation**3 (3-0-6)***Prerequisite: None*

Principles of translation dealing with the translation over longer and more complicated business messages but with meaning consistency and language accuracy.

1005461 Introduction to Thai History**3 (3-0-6)***Prerequisite: None*

The development of Thai administrative, economic, social and cultural aspects ranging from those of Sukhothai period to those of Rattanakosin period in brief.

1005462 Thai Idioms and Proverbs**3 (3-0-6)***Prerequisite: None*

Fundamental knowledge of currently applicable Thai language expressions dealing with idioms and vital components concerned with contexts and the comparison of the Thai language with those of the students' mother-tongued language.

1005463 Thai Folk Arts**3 (3-0-6)***Prerequisite: None*

Meaning and creativity of local Thai arts dealing those visual arts, handicrafts, fine arts, musical arts and dramatic arts reflecting the Thai ways of living, beliefs, religions and visions.

1005471 Thai Folktales**3 (3-0-6)***Prerequisite: None*

Introduction of Thai folktales regarding thoughts and theories, analysis existing in the tales.

1005472 Introduction to Thai Poetry**3 (3-0-6)***Prerequisite: None*

Introduction of Thai poetry dealing with samples of prototypes applicable for the analysis to be made by the students according to the principles provided.

1005473 Literary Language**3 (3-0-6)***Prerequisite: None*

Thoughts and theories dealing with the analysis of the beauty of the language regarding the literary values derived from prose and poetry, the application of language artistically and linguistically.

1005481 Introduction to Project Writing**3 (3-0-6)***Prerequisite: None*

Project work preparation regarding steps of how to prepare the Thai project works, questioning techniques, research conducting, literature reviewing, objective writing, hypothesis setting, reference citing.

1005482 Senior Project**6 (0-18-6)***Prerequisite: 1005481*

Paper works with close supervision provided by the advisor regarding Thai language and with topics or issues of students' interests in forms of proposals, data gathering, analyzing and reporting as well as presentation.

1006111 Basic Listening and Speaking**3 (3-0-6)***Prerequisite: None*

Everyday listening and speaking English in various settings and situations.

1006112 Listening and Speaking for Communication**3 (3-0-6)***Prerequisite: 1006111*

Listening and not-taking of academic lectures and topics of interest; discussion and suggestion; asking and answering.

1006131 Basic English Structure**3 (3-0-6)***Prerequisite: None*

English grammar; sentence structure and parts of speech; grammatical problems for Thai students.

1006182 Introduction to Sociolinguistics**3 (3-0-6)***Prerequisite : None*

Socio-cultural factors English language use of native English speaking countries socio-cultural factors affecting use of English language.

1006194 English for Academic Purposes 1**3 (2-3-5)***Prerequisite : None*

Independent learning; researching for information; evaluating information; process of essay writing; critical thinking; citing sources; surveying texts/chapters/articles.

- 1006195 English for Academic Purposes 2** **3 (2-3-5)**
Prerequisite: 1006194
 Independent learning; listening and note-taking; recognising lecture patterns and structures; discussion skills; delivering oral presentations.
- 1006196 Introduction to English Linguistics** **3 (3-0-6)**
Prerequisite: None
 A linguistic study of the English language, foundations of English phonetics, segmental and suprasegmental phonology, inflectional and lexical morphology, morpho-phonological characteristics, syntactic structures, and principal lexico-semantic characteristics.
- 1006197 Computer-Assisted Language Learning** **3 (2-2-5)**
Prerequisite: None
 Computer-based and web-based contemporary technologies, incorporating into lessons to enhance English language skills; listening, speaking, reading and writing. Gathering information from information technology resources.
- 1006198 Listening and Speaking 1** **3 (3-0-6)**
Prerequisite: None
 Listening for the sound system of English stress, intonation, rhythm and word grouping. Conversations in different situations with an awareness of appropriate and acceptable usage as well as pronunciation.
- 1006199 Listening and Speaking 2** **3 (3-0-6)**
Prerequisite: 1006198
 Listening to passages, dialogues, and short plays written at the intermediate language level and delivered by native speakers of English and by other English speaking people. Speaking with idiomatic usage, appropriate rejoinders, interjections, phrases expressing request, acceptance, agreement, polite refusal and other miscellaneous speech functions used naturally in communication.
- 1006209 English for Tourism 1** **3 (3-0-6)**
Prerequisite: None
 Integrated four skills practice of listening, speaking, reading and writing for tourism.
- 1006210 English for Tourism 2** **3 (3-0-6)**
Prerequisite: 1006209
 Integrated four skills practice of listening, speaking, reading and writing for tourism in more complication tourism situations.
- 1006211 English for Hospitality Industry 1** **3 (2-3-5)**
Prerequisite: None
 Integrated four skills practice of listening, speaking, reading and writing for hospitality industry.
- 1006212 English for Hospitality Industry 2** **3 (2-3-5)**
Prerequisite: 1006211
 Integrated four skills practice of listening, speaking, reading and writing for hospitality industry.
- 1006213 Presentation Skills** **3 (3-0-6)**
Prerequisite: None
 Effective presentations; topic selection; searching for information; documentation techniques; appropriate audiovisual aids.
- 1006217 English for Communication** **3 (2-2-5)**
Prerequisite: 1006119 or 1006120 or 1006117
 Expanding integrated language skills used in daily life and academic situations.
- 1006218 Academic Reading and Writing** **3 (2-2-5)**
Prerequisite: 1006119 or 1006120 or 1006117
 Information searching and evaluating; note-taking; summary writing techniques.

- 1006221 Academic Reading 3 (3-0-6)**
Prerequisite: None
 Reading for main ideas from medias including newspapers and articles; reading techniques skimming, scanning, guessing word meanings from contextual clues.
- 1006222 Critical Reading 3 (3-0-6)**
Prerequisite: None
 Critical reading and discussion of content; arguments and citation.
- 1006241 Literature 1(Poetry) 3 (3-0-6)**
Prerequisite: None
 Elements of poetry; content, theme; rhetoric, style and literary form; famous poets work including Emily Dickinson, Robert Frost, William Shakespeare and Robert Burns.
- 1006242 Literature 2(Prose) 3 (3-0-6)**
Prerequisite: 1006241
 Elements of prose; content, theme, rhetoric, style and literary form; English prose writers work including; famous prose writer's Ralph Waldo Emerson, William Hemingway, Charles Dickens, Charlotte Emily Bronte.
- 1006283 Introduction to Morphology 3 (3-0-6)**
Prerequisite: None
 Structure of words, including prefix, suffix, root, word classes including nouns, verbs, adjective, adverbs; homonyms, homographs.
- 1006290 English for Academic Purposes 3 3 (2-3-5)**
Prerequisite: 1006195
 Micro-seminar; panel discussion; debate; critical thinking.
- 1006291 English for Airline Business 3 (3-0-6)**
Prerequisite: None
 Terminology and useful phrases required for airline business. Airline business information, coordination and communication skills.
- 1006292 English for Tourism 3 (3-0-6)**
Prerequisite: None
 Terminology and useful phrases required for the travel industry: giving information and making suggestions on geographical and historical issues, giving directions, maps, accommodation, sales and service.
- 1006293 English for Hotel Management 3 (3-0-6)**
Prerequisite: None
 Language skills necessary to work within the hotel industry. Technical vocabulary, English expressions within the field, including hotel management.
- 1006294 Writing 1 3 (3-0-6)**
Prerequisite: None
 Writing descriptive and narrative paragraphs, sentence structure and paragraph organization.
- 1006295 English Literature 1 3 (3-0-6)**
Prerequisite: 1006297
 A fundamental course on plots, themes and writing styles of selected English literary works, including prose, poetry and plays.
- 1006296 English Syntax 3 (3-0-6)**
Prerequisite: 1006196
 Lexemes, phrases, clauses, sentences, intrasentential morpho-syntactic relationships and structures of English sentences, based on contemporary syntactic theories.

- 1006297 Reading 1** **3 (3-0-6)**
Prerequisite: None
 A study with emphases on reading a variety of materials from published and electronic source, employing reading strategies for better comprehension, making verbal and written summaries of texts, analyzing text language and structure, comprehending texts without translating them into one's native language, practicing reading aloud and expanding vocabulary scope.
- 1006298 Reading 2** **3 (3-0-6)**
Prerequisite: 1006297
 Reading various types of materials; analytical and critical reading of excerpts and interesting articles on current events and controversial topics. Vocabulary, idioms and phrases for beneficial application to writing as well as speaking.
- 1006299 English Phonetics** **3 (3-0-6)**
Prerequisite: 1006196
 An advanced study of English phonetics and phonology with an emphasis on pronunciation development, English consonant and vowel phonemes and their phonetic realisations, phonotactics in relation to syllable structures, stress patterns in simple, compound and complex words, important aspects of connected speech, and forms and functions of intonation.
- 1006300 English for Secretaries** **3 (3-0-6)**
Prerequisite: None
 Language skills in secretarial environment. Developing secretarial proficiency through, communication skills, management and business sense, judgment, organisational ability, interpersonal skills and emotional intelligence.
- 1006301 College Writing** **2 (2-0-4)**
Prerequisite: 1006217 or 1006108
 Research topic selection; rationale and purposes; information searching and evaluating; note-taking; synthesizing notes; data collecting and analyzing; report writing.
- 1006302 Academic Oral Skills** **2 (2-0-4)**
Prerequisite: 1006217 or 1006108
 Critical listening and responding; techniques of discussion, interview, and presentation; interviewing and academic presentation practice.
- 1006303 English for Professional Purposes** **1 (0-2-1)**
Prerequisite: 1006217 or 1006108
 Practicing reading skill with technical terms found in technical textbooks of various fields, periodicals and other printed matters, focusing on language required for success as a professional in the particular workplaces; speaking and writing seminars; independent study.
- 1006304 English for Professional Success** **1 (0-2-1)**
Prerequisite: 1006217 or 1006108
 Writing of various types of careers documents with emphasis on forms, vocabularies, and idiomatic and conventional expressions; preparing resume as well as how to perform in an interview professionally.
- 1006309 English Through Newspaper** **3 (2-2-5)**
Prerequisite: None
 Benefits from newspaper reading; understanding headlines; reading the newspaper lead; scanning and skimming; learning new words without a dictionary; reading critically; understanding feature and opinion writing; and using the newspaper to improve your English.
- 1006331 Introduction to Translation** **3 (3-0-6)**
Prerequisite: None
 Principle of translation; prose, short passages.
- 1006332 Business Translation** **3 (3-0-6)**
Prerequisite: 1006331
 Advanced translation; more complex structures from business texts, article and news.

- 1006352 English for Job Application 3 (3-0-6)**
Prerequisite: None
 Employment advertisement; writing of resume, application letters and forms; preparation for job interview.
- 1006353 English for The Greater Maekong Subregion (GMS) 3 (3-0-6)**
Prerequisite: None
 English version of culture, custom and people of countries in the Greater Mekong Subregion; Laos, Cambodia, Vietnam, Myanmar, China and Thailand; promoting cooperation among organization in those countries.
- 1006355 English for Secretary 1 3 (3-0-6)**
Prerequisite: None
 Rhetoric, terminology and useful phrase for secretarial work; office management; coordination and communication.
- 1006356 English for Secretary 2 3 (3-0-6)**
Prerequisite: 1006355
 Advanced English for secretarial work; writing skills including memorandums, business letters, agenda and minutes of meeting.
- 1006357 English for Hotel Management 1 3 (3-0-6)**
Prerequisite: None
 Rhetoric, terminology and useful phrase for hotel management; office management; coordination and communication.
- 1006358 English for Hotel Management 2 3 (3-0-6)**
Prerequisite: 1006357
 Advanced English for hotel management; communication skills; problem solving and public relations.
- 1006359 English for Tourism 1 3 (3-0-6)**
Prerequisite: None
 Rhetoric, terminology and useful phrase for tourism industry; travel information; coordination and communication.
- 1006361 English for Tourism 2 3 (3-0-6)**
Prerequisite: 1006359
 Advanced English for tourism industry; communication skills; problem solving and public relations.
- 1006362 English for Airline Business 1 3 (3-0-6)**
Prerequisite: None
 Rhetoric, terminology and useful phrase for airline business; airline business information; coordination and communication.
- 1006363 English for Airline Business 2 3 (3-0-6)**
Prerequisite: 1006362
 Advanced English for airline business; communication skills; problem solving and public relations.
- 1006366 Comparative Study of English and Thai 1 3 (3-0-6)**
Prerequisite: None
 This course is a comparative study of the English and Thai in the areas of phonetics, phonology, and morphology. It attempts to describe phonetic and phonological similarities and differences between English and Thai consonants, vowels, suprasegmental features and syllable structures. In the area of morphology, primary focus is on the comparison of word-formation processes in the two languages.
- 1006365 Understanding Cultures Through Cinema 3 (3-0-6)**
Prerequisite: 1006394 and 1006298 and 1001111
 A study of aspects of both mainstream cultures and sub-cultures as portrayed in the cinema, with an emphasis on detecting and analysing cultural traits, their meanings and their representations in relation to the thematisation of a movie.

1006380 History of the English-Speaking World 3 (3-0-6)*Prerequisite:* 1001131 and 1001111

A study focusing on the historical and political backgrounds of the English-speaking countries, important periods and events in the history of the English language and significant factors contributing to the evolution of English as an international language.

1006390 Selected Topics in Literature 3 (3-0-6)*Prerequisite:* 1006398

A study of particular aspect of a literary work of interest, forming a thesis or a hypothesis, gathering and review related literature, conducting research and analysis on the issue, producing a term-paper to present the findings and discuss them orally.

1006391 English in Mass Communication 3 (3-0-6)*Prerequisite:* 1006298 or 1006394

A study and practice of the use of English in printed media, television media, radio media and advertising media.

1006392 Business Writing 3 (3-0-6)*Prerequisite:* 1006394

Forms and styles of business writing in professional contexts. Writing memos, letters, brochures, reports, abstracts, and proposals. Analyzing audiences, clarifying purposes, and developing appropriate writing strategy.

1006393 Principles of Translation 3 (3-0-6)*Prerequisite:* 1006298 and 1006394 and 1001116

Basic principles and methodology of translation, the significance of text analysis to identify its purpose and intended audience, interlingual analysis and comparison of the deep and surface structures, semantic structures of and relationships between lexical items, various propositional structures, and skewing patterns between deep-structure concepts and their surface-structure manifestations.

1006394 Writing 2 3 (3-0-6)*Prerequisite:* 1006294

Writing academic, comparative, persuasive, cause-effect essays, paraphrasing, writing a summary.

1006395 Writing 3 3 (3-0-6)*Prerequisite:* 1006394

Practice in writing research proposals, official reports, means of locating and collecting data from various sources; methods of compiling, collecting data, referencing, editing, and using a library for the writing of a finished report.

1006396 Cross-cultural Communication 3 (3-0-6)*Prerequisite:* 1006298 and 1006394

A study of the cultures of countries adopting English as the medium of cross-cultural communication, especially the Greater Mekhong Subregional countries, in order to facilitate friendly relationships, communication and business negotiations.

1006397 Comparative Study of English and Thai 3 (3-0-6)*Prerequisite:* 1006299 and 1006296

Similarities and differences between English and Thai phonetics, phonology, morphology, syntax and semantics, with discussions of prevention of common errors made by Thai learners of English and vice versa.

1006398 English Literature 2 3 (3-0-6)*Prerequisite:* 1006295

Reading of selected pieces of English literature, focusing on the plots, themes, writing styles, linguistic artistry and literary value, for academic and aesthetic-appreciation purposes.

- 1006399 Studies in Speculative Fiction 3 (3-0-6)**
Prerequisite: 1660398
 A study of the development of the genre of speculative fiction in terms of its significance to culture and society; a study of speculative fiction literature as related to the social environment, philosophy, aesthetics, and different forms of art and media.
- 1006434 Academic Writing 3 (3-0-6)**
Prerequisite: 1006233 and 1006242
 Preparing academic documents; structure and outline; information acquisition and edition.
- 1006491 Co-operative Education 6 (0-40-12)**
Prerequisite: None
 Student could be preparing to work as a training worker or a temporary employee at the provided training organizations; included government and non-government organization, one semester according to student's major subject. After finish, students have to send and present academic report to the major's teachers. The evaluation criterias are based on the evaluation results from the advisor of co-operative education, the officer at the organization and student's academic report.
- 1006492 Overseas Training 6 (0-40-12)**
Prerequisite: None
 Overseas training in organizations under university's supervision and evaluation.
- 1006495 News Translation 3 (3-0-6)**
Prerequisite: 1006394
 A study of principles and methodology of news translation between English and Thai, with an emphasis on actual translation of a variety of news-types.
- 1006496 Principles of English Language Teaching 3 (3-0-6)**
Prerequisite: 1006199 and 1006298 and 1006395 and 1006196
 Approaches in English language teaching. Teaching methodology. Materials design and selection. Evaluation and assessment.
- 1006497 Business Translation 3 (3-0-6)**
Prerequisite: 1006394
 Basic principles and methodology of translating business-related written matters between Thai and English, differences between Thai and English business-writing styles, formats and organisation, common business terminology, as well as pragmatic considerations in relation to translation as interlingual communication.
- 1006498 Senior Project 3 (3-0-6)**
Prerequisite: None
 An independent study of a selected topic on issue under close supervision by an advisor, requiring objective-setting, hypothesizing, literature reviewing, researching and analyzing, culminating in a paper and oral presentation.
- 1006499 Seminar in Contemporary Issues 3 (3-0-6)**
Prerequisite: None
 A study of a selected contemporary topic or issue, with logical analysis of the aspects under study, culminating in a seminar and oral and paper presentation.
- 1007101 Chinese 1 3 (3-0-6)**
Prerequisite: None
 Integrated four skill practice of listening, speaking, reading and writing for beginning Chinese.
- 1007102 Chinese 2 3 (3-0-6)**
Prerequisite: 1007101
 Advanced integration of four skills; listening, speaking, reading and writing of Chinese
- 1007107 Introduction to China 3 (3-0-6)**
Prerequisite: None
 A preliminary study of China's geography, demography, governmental system, economy, science and technology, education system, religions and culture.

1007108 Chinese Computer**3 (3-0-6)***Prerequisite: None*

A study of the foundation of Chinese computer, Chinese typing system and information processing system.

1007202 Chinese History**3 (3-0-6)***Prerequisite: None*

A study of ancient to contemporary history of China, important emperors, prosperity and fall of each dynasty and important historical events.

1007203 Applied Classical Chinese**3 (3-0-6)***Prerequisite: None*

A study of vocabulary, expressions, and grammatical features found in classical Chinese extracts, with an emphasis on linguistic characteristics still in use in modern Chinese.

1007204 Overseas Chinese Community**3 (3-0-6)***Prerequisite: None*

A study of the history of overseas Chinese communities, their settlements and the roles of Chinese communities in the country of settlement.

1007205 China and Its International Relations**3 (3-0-6)***Prerequisite: None*

A study of the role of China in the world community and China's commercial and economic relationship with other countries, especially Thailand, and with the international organizations of which China is a member.

1007210 Chinese 3**3 (3-0-6)***Prerequisite: 1007102*

Advanced integration of four skills; listening, speaking, reading and writing of Chinese.

1007212 Chinese Folk Custom**3 (3-0-6)***Prerequisite: None*

Aspects of folk customs in the social life of China. including Chinese food, customs, residences, life rituals, traditional festivals, operas and other art forms and folk beliefs with special attention to traditions and taboos in those aspects.

1007211 Chinese-Go**3 (2-2-5)***Prerequisite: None*

Principles of a traditional Chinese game, which is called Go, constructed with vocabulary that are specifically for use in the knowledge of Go and includes the introduction to the history, rules and techniques of the Chinese Go.

1007220 Business Chinese Conversation**3 (3-0-6)***Prerequisite: None*

A course emphasising Chinese conversation in business contexts and in other situations.

1007221 Conversation and Discussion on Chinese Culture**3 (3-0-6)***Prerequisite: None*

A course emphasizing conversation and discussion of topics concerning the Chinese culture, especially business-related aspects of the culture.

1007250 Survey to Chinese Literature**3 (3-0-6)***Prerequisite: None*

A preliminary survey of ancient to contemporary Chinese literature, focusing on a selection of literary works of each dynasty.

1007251 Chinese Philosophy**3 (3-0-6)***Prerequisite: None*

A study of the philosophies, concepts and teachings of China's renowned philosophers and schools of philosophers.

- 1007330 Chinese Newspaper Reading 3 (3-0-6)**
Prerequisite: None
 A course focusing on the reading of business articles and other news in various published media in order to comprehend the contents and summarize them.
- 1007331 Business Chinese Reading 3 (3-0-6)**
Prerequisite: None
 A course focusing on the reading of business-related texts and articles in order to interpret, analyze and summarize them.
- 1007341 Business Chinese Writing 3 (3-0-6)**
Prerequisite: None
 A study of terminology and expressions commonly used in business practice, application forms, form-filling, memoranda and various types of business letters.
- 1007367 Chinese for Public Relations 3 (3-0-6)**
Prerequisite: None
 A study of the use of written or spoken Chinese for public-relation purposes, emphasizing presentation skills, news-writing and brochure-writing.
- 1007401 Sino-Thai Relationships 3 (3-0-6)**
Prerequisite: None
 A study of the development of economic, political, social, cultural and educational relationships between Thailand and China from ancient times to the present.
- 1007402 Introduction to Chinese Investment Law 3 (3-0-6)**
Prerequisite: None
 A course focusing on China's investment law, including trade and investment policies, rates of customs duty and other related laws.
- 1007410 Chinese Listening from Audio-Visual Aids 3 (3-0-6)**
Prerequisite: None
 A course focusing on the enhancement of Chinese-listening skills through various audio-visual media in order to understand main ideas and summarizes them.
- 1007422 Chinese Public Speaking 2 (1-2-3)**
Prerequisite: None
 A study of Chinese oration, focusing on vocabulary, expressions, speaking styles and oratorical skills.
- 1007442 Report Writing in Chinese 3 (3-0-6)**
Prerequisite: None
 A study of the methodology of the writing of general reports, research reports, business reports as well as annual reports.
- 1007443 Chinese Calligraphy 1 (0-2-1)**
Prerequisite: None
 A study of the principles and artistry of Chinese brush calligraphy, with practice in various ancient Chinese calligraphic styles.
- 1007450 Chinese Moral Tales and Proverbs 3 (3-0-6)**
Prerequisite: None
 A study of ethics and philosophy through Chinese folk tales, with an emphasis on semantically and syntactically proper usage of Chinese proverbs.
- 1007461 Chinese for Secretarial Work 3 (3-0-6)**
Prerequisite: None
 A study of secretarial duties, common terminology and expressions, Chinese for office work and telecommunications, agenda-writing and minute-taking.

- 1007462 Chinese for Tourism**
Prerequisite: None
 A study of Chinese terminology and expressions commonly used in touring industry, traveling, currency exchange and inquiry of information in hotels, entertainment places or theatres.
3 (3-0-6)
- 1007463 Chinese for Tour Guides**
Prerequisite: None
 A study of tour guides' roles and duties in providing Chinese-language information concerning tourist attractions, with a tour-guiding practicum to give training in both simulated and authentic situations.
3 (3-0-6)
- 1007464 Chinese for Hotel Business**
Prerequisite: None
 A study of Chinese terminology and expressions commonly used in hotel industry, with an emphasis on the enhancement of oral skills for effective conversations between clients and hotel staff.
3 (3-0-6)
- 1007465 Chinese for Finance and Banking**
Prerequisite: None
 A study of Chinese terminology and expressions commonly used in finance and banking industry, use of cheques, cash deposit and withdrawal, transfers, currency exchange, mortgaging and documentation system, including practice in listening, speaking, reading and writing in order to effectively facilitate clients' transactions.
3 (3-0-6)
- 1007466 Chinese for International Trade**
Prerequisite: None
 A study of terminology and expressions commonly used in international trade.
3 (3-0-6)
- 1007470 Business Chinese Translation**
Prerequisite: None
 A study of principles of translation, translation of business and commercial news, business documents and different types of business letters from Chinese into Thai and vice versa.
3 (3-0-6)
- 1007480 Seminar**
Prerequisite: None
 A course in which students will conduct an in-depth study of business-related topics for presentation and discussion.
3 (3-0-6)
- 1007490 Co-operative Education**
Prerequisite: None
 Student could be preparing to work as a training worker or a temporary employee at the provided training organizations; included government and non-government organization, one semester according to student's major subject. After finish, students have to send and present academic report to the major's teachers. The evaluation criterias are based on the evaluation results from the advisor of co-operative education, the officer at the organization and student's academic report.
3 (0-35-6)
- 1008105 Basic Japanese 1**
Prerequisite: None
 Japanese pronunciation, hiragana, katakana, and kanji characters, basic Japanese sentences, daily vocabulary and expressions.
3 (2-3-5)
- 1008106 Basic Japanese 2**
Prerequisite: 1008105
 Adjectives and verbs conjugation in positive, negative sentences (polite and plain forms), compound sentences, 80 kanji characters.
3 (2-3-5)
- 1008107 Basic Japanese 3**
Prerequisite: 1008106
 Complex sentences expressing idea, possibility, and condition, modifying nouns with phrases and sentences, 80 kanji characters.
3 (2-3-5)

- 1008108 Basic Japanese 4** **3 (2-3-5)**
Prerequisite: 1008107
 Intransitive and transitive verb sentences, imperative form, potential form and passive form of verbs, sentences expressing intention, purpose, possibility and hearsay, 80 kanji characters.
- 1009101 French 1** **3 (3-0-6)**
Prerequisite: None
 Integrated four skill practice of listening, speaking, reading and writing for beginning French.
- 1009102 French 2** **3 (3-0-6)**
Prerequisite: 1009101
 Advanced integration of four skills; listening, speaking, reading and writing of French.
- 1014108 Fundamental of Mandarin Chinese** **6 (4-4-10)**
Prerequisite: None
 Mandarin Chinese phonology; pronunciation; vocabulary in daily communication; basic sentence and grammatical structures; practice in four language skills; and knowledge of 500 Chinese characters.
- 1014109 Everyday Use of Mandarin Chinese** **6 (4-4-10)**
Prerequisite: None
 Vocabulary in daily communication and immediate society; more complex sentence and grammatical structures; practice in four language skills; and knowledge of 1,000 Chinese characters.
- 1014110 Intermediate Chinese** **6 (4-4-10)**
Prerequisite: 1014109
 Chinese in relation to arts, culture, philosophy, religions, science, technology, social sciences, economics, politics and businesses; intermediate-level sentence and grammatical structures; practice in four language skills; and knowledge of 2,000 Chinese characters.
- 1014111 Mandarin Chinese Conversation** **6 (4-4-10)**
Prerequisite: 1014109
 Practice of skills in everyday life situations; expression of opinions in daily life; exchange of experiences and current information; and the use of appropriate diction.
- 1014214 Mandarin Chinese Reading 1** **3 (3-0-6)**
Prerequisite: 1014109
 Practice of reading short essays with uncomplicated contents, with an emphasis on reading for comprehension and summarizing.
- 1014215 Sound System of Mandarin Chinese** **3 (3-0-6)**
Prerequisite: None
 Mandarin phonology and phonetics; improving Mandarin pronunciation of learners.
- 1014216 Mandarin Chinese Grammar 1** **3 (3-0-6)**
Prerequisite: None
 Analyzing parts of speech, meaning, function of words and phrases in Mandarin.
- 1014217 Chinese Morphology** **3 (3-0-6)**
Prerequisite: None
 Structure and application of using words of Mandarin.
- 1014218 Chinese Proverbs and Idioms** **3 (3-0-6)**
Prerequisite: None
 Knowing high-frequency Chinese idioms used in well-known Chinese stories, focusing on didactics and life philosophy; using idioms known properly.
- 1014219 Mandarin Chinese Reading 2** **3 (3-0-6)**
Prerequisite: 1014214
 Practice of reading selected texts which are essays of greater length and more complex contents, with an emphasis on analytical reading skill.

1014220 Mandarin Chinese Grammar 2**3 (3-0-6)***Prerequisite:* 1014216

Mandarin grammar; analyzing structure; relationship of structure and meaning of sentences.

1014221 Learning Technology**3 (2-2-5)***Prerequisite:* None

Concept, theory, technology, and innovation for education; teaching and studying how to apply technology; analyzing problems from using technological innovation; designing and developing lessons.

1014222 Principles of Education and Teaching Profession**3 (3-0-6)***Prerequisite:* None

Concept, philosophy in education, Thai education management; importance of teaching profession; role, duty and responsibility; career path; characteristics of good teacher; creating good attitude toward teaching profession; creating potential and competence of being a teacher; being an academic leader; having standard of teaching profession, morals and ethics.

1014223 Educational Psychology**3 (3-0-6)***Prerequisite:* None

Meaning, significance and history of educational psychology; theories of educational psychology; human development; personality; motivation; idiosyncratic mental image; learning and association of knowledge; reasoning and problem-solving power; meta-intelligence; social education; new insights in educational psychology; and principles of educational psychology basic to learner-centred learning.

1014309 Evolution of Chinese Characters**3 (3-0-6)***Prerequisite:* None

Evolution of Chinese Characters from ancient inscribed characters to modern time; the structure of Chinese characters in each period.

1014310 Applied Ancient Chinese**3 (3-0-6)***Prerequisite:* None

Vocabulary, idioms, and grammar in reading ancient Chinese; focusing on language features used in modern Chinese.

1014311 Chinese Culture and Traditions**3 (3-0-6)***Prerequisite:* None

Influence of Chinese cultural background and traditions toward value, morals, ethics and life style of Chinese.

1014312 Geography of China**3 (3-0-6)***Prerequisite:* None

Geography of China; resource; places as world heritage; transportation; groups of people and development of physical geography in accordance with economic and social system of China.

1014313 Chinese Writing Skill**3 (3-0-6)***Prerequisite:* None

Writing formal letters and books

1014314 Teaching-Learning Process**3 (3-0-6)***Prerequisite:* None

Meaning and significance of learning and teaching arrangement; theories of learning and teaching; development of learning and teaching styles; designing and implementing learning experiences; integration of multiple intelligences; pedagogy and its techniques; creation, use and development of innovative learning media; arrangement of learner-centred learning; and learning assessment.

1014315 Teaching Observation**3 (0-12-3)***Prerequisite:* None

Observing teaching in the real work place; doing learning activities.

- 1014316 Principles of Chinese Teaching 3 (3-0-6)**
Prerequisite: None
 Making learning plan; using techniques and strategies for learning plan; evaluating, and developing how to learn Chinese.
- 1014317 Guidance and Counseling Psychology 3 (3-0-6)**
Prerequisite: None
 Basic principles of guidance and counseling; meaning of guidance and counseling; history, philosophy, beliefs and importance of guidance and counseling; types and characteristics of guidance and counseling; provision of in-school guidance and counseling; roles and ethics of guidance and counseling personnel.
- 1014318 Practical Experience 3 (0-12-3)**
Prerequisite: 1014315
 practicum while studying by integrating all knowledge in teaching in a school/ institute; Observing interviewing students, collecting all data and presenting the result; cooperating with the school/ institute to develop the curriculum and applying it; making lesson plans, learning activities, academic project under the supervision of the supervisor.
- 1014319 Classroom and School Management 3 (2-2-5)**
Prerequisite: None
 Meaning, scope, significance and conceptual framework of classroom management; theories and principles of management; educational leadership and skills of methodical thinking; understanding of organization culture; communication for mutual benefits and intra-organizational relations; team-working, classroom management; implementation of academic, vocational and community development projects; organization of information technology for educational management and assurance.
- 1014412 Chinese History 1 3 (3-0-6)**
Prerequisite: None
 Important historical events; the glory and decline of each period from ancient history to Xin Hai revolution.
- 1014413 Chinese Politics 3 (3-0-6)**
Prerequisite: None
 Evolution of modern economy of China in the product from main industries; marketing and monetary that influence international trading.
- 1014414 Chinese Economy 3 (3-0-6)**
Prerequisite: None
 Evolution of modern economy of China in the product from main industries; marketing and monetary that influence international trading.
- 1014415 Chinese Philosophy 3 (3-0-6)**
Prerequisite: None
 Philosophy, concept and teaching of Chinese philosophers to Chinese society nowadays.
- 1014416 Chinese Newspaper Reading 3 (3-0-6)**
Prerequisite: None
 Elements and format of Chinese newspapers; words, idioms and sentence patterns used in newspapers; reading for main idea, making summary, interpretation and giving opinion about passages read.
- 1014417 Chinese History 2 3 (3-0-6)**
Prerequisite: 1014412
 Important historical events; the glory and decline of each period from ancient history to Xin Hai revolution.

1014420 Educational Assessment and Evaluation**3 (2-2-5)***Prerequisite: None*

Principle and evaluation techniques in education; evaluating from real situation, portfolio, and practice, ethics of evaluators; devices of evaluating and making devices; making and analyzing tests; quality of devices; measurement and evaluation innovation' score and using score level; keeping record of evaluation.

1014421 Education and Classroom Research**3 (2-2-5)***Prerequisite: None*

Principle, theory, and types of educational; research; research question; design and techniques; using statistics, collecting and analyzing data; classroom research and writing its result; presenting research; proposing research project.

1014501 Teaching Professional Practicum 1**6 (0-40-12)***Prerequisite: None*

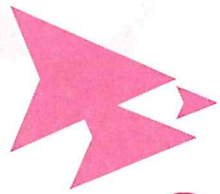
Practicing teaching in school, integrating all knowledge in teaching; lesson plans for students as the center, managing process of learning; making teaching materials, innovation; using techniques and strategies in learning; evaluating and doing classroom research to develop learners; making record; doing all kinds of work in school under the supervisor's supervision; having seminars after the practicum.

1014501 Teaching Professional Practicum 1**6 (0-40-12)***Prerequisite: None*

Practicing teaching in school, integrating all knowledge in teaching; lesson plans for students as the center, managing process of learning; making teaching materials, innovation; using techniques and strategies in learning; evaluating and doing classroom research to develop learners; making record; doing all kinds of work in school under the supervisor's supervision; having seminars after the practicum.

1014502 Teaching Professional Practicum 2**6 (0-40-12)***Prerequisite: None*

Practicing teaching in school, integrating all knowledge in teaching; lesson plans for students as the center, managing process of learning; making teaching materials, innovation; using techniques and strategies in learning; evaluating and doing classroom research to develop learners; making record; doing all kinds of work in school under the supervisor's supervision; having seminars after the practicum.



School of Management

- **Accounting**
- **Economics**
- **Business Administration**
- **Tourism Management**
- **Hospitality Industry Management**
- **Aviation Business Management**

School of Management

Mae Fah Luang University

The School of Management aims to provide students with equal opportunities for highly distinguished education and ethics standards and curriculums to pursue a specialized study program under each discipline of the School to fulfill increasingly stringent and complicated needs of business, industry and public sectors not only in Thailand but also in neighboring countries. The School is committed to assist students in developing creative thinking, innovation, professional and leadership skills through innovative learning practices of the School and real-world business experience training. The School offers a total of six academic programs: Accounting, Business Administration, Economics, Tourism Management, Hospitality Industry Management, and Aviation Business Management.

The School also extends its academic programs to the areas of entrepreneurship and personal financial planning, as well as providing support for alumni and students engaged in entrepreneurial pursuits by researching and developing with the community. For the effective implementation of such programs, the School has a close link with Mae Fah Luang University's Business Incubator ("MFUBI"), the Cooperative Training Department under the Commission on Higher Education, and other enterprises such as industrial organizations, industrial estates, professional institutions and the hotel and tourism industries.

Given MFU's profession-oriented policies, the School arranges student internship, co-operative education and seminars for students to acquire hands-on learning and to achieve opportunities for employment, partly through real-world business training and meetings with highly reputable business executives invited as visiting guest-lecturers throughout the year to share their knowledge and experiences.

At present, the School of Management offers five bachelor's degree programs, as follows:

Bachelor of Accounting Program: B.Acc.

Bachelor of Economics Program: B.Econ.

Bachelor of Business Administration: B.B.A. (Business Administration)

Bachelor of Business Administration: B.B.A. (Tourism Management)

Bachelor of Business Administration: B.B.A. (Hospitality Industry Management)

Bachelor of Business Administration: B.B.A. (Aviation Business Management)



Bachelor of Accounting Program B.Acc.

Total Credit

1. General Education Courses

2. Specific Requirement Courses

2.1 Core Courses

2.2 Major Required Courses

2.3 Major Elective Courses

3. Free Elective Courses

138 Credits

30 Credits

102 Credits

48 Credits

45 Credits

9 Credits

6 Credits

1. General Education Courses

1001103	Thai Language Skills
1001111	Cultural Studies
1001112	Logical Thinking
1001121	Recreation and Sport for Well-Being
1001132	Politics and Government
1001141	General Psychology
1006217	English for Communication
1006218	Academic Reading and Writing
1006301	College Writing
1006302	Academic Oral Skills
1006303	English for Professional Purposes
1006304	English for Professional Success
1203141	Organization and Management
1301104	Introduction to Information Technology

30 Credits

Cr(Le-Pr-SS)*

2 (2-0-4)

2 (2-0-4)

2 (1-2-3)

1 (0-2-1)

3 (3-0-6)

3 (3-0-6)

3 (2-2-5)

3 (2-2-5)

2 (2-0-4)

2 (2-0-4)

1 (0-2-1)

1 (0-2-1)

2 (2-0-4)

3 (2-2-5)

2. Specific Requirement Courses

102 Credits

2.1 Core Courses

48 Credits

Cr(Le-Pr-SS)*

1106106	Foundation Mathematics for Business
1201113	Elementary Accounting 1
1201114	Elementary Accounting 2
1202112	Microeconomics
1202113	Macroeconomics
1203103	Statistics and Research Method for Business
1203121	Principles of Marketing
1203201	Taxation
1203212	Business Finance
1203243	Organizational Behavior
1203252	Quantitative Analysis
1203253	Production and Operations Management
1301212	Introduction to Database system
1301214	Web Design
1301342	Management Information Systems
1600101	Business Laws
1601101	Introduction to Legal Principles

3 (3-0-6)

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3 (3-0-6)

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3 (3-0-6)

2.2 Major Required Courses

45 Credits

Cr(Le-Pr-SS)*

1201213	Intermediate Accounting 1
1201214	Intermediate Accounting 2
1201322	Cost Accounting
1201323	Managerial Accounting
1201330	Accounting Information System
1201331	Auditing

3 (3-0-6)

3 (3-0-6)

3 (3-0-6)

3 (3-0-6)

3 (3-0-6)

3 (3-0-6)

1201411	Advanced Accounting 1	3 (3-0-6)
1201412	Advanced Accounting 2	3 (3-0-6)
1201413	Tax Accounting	3 (3-0-6)
1201433	Financial Reporting and Statement Analysis	3 (3-0-6)
1201434	Internal Control and Internal Audit	3 (3-0-6)
1201491	Co-operative Education	9 (0-40-18)
	or	
1201492	Overseas Training	9 (0-40-18)
	or	
1201493	Research Project in Accounting	9 (0-40-18)
1201497	Seminar in Accounting	3 (3-0-6)

2.3 Major Elective Courses

9 Credits
Cr(Le-Pr-SS)*

	Select from the following	
1201312	Accounting Theory	3 (3-0-6)
1201314	Profit Planning and Control	3 (3-0-6)
1201315	International Accounting	3 (3-0-6)
1201333	Analysis and Design of Accounting Information System	3 (3-0-6)
1201334	Analysis and Design of Accounting Information System	3 (2-2-5)
1201345	Accounting for Specific Enterprises	3 (3-0-6)
1201346	Current Issues in Accounting	3 (3-0-6)
1201347	Cost Management	3 (3-0-6)
1201348	Fraud Auditing	3 (3-0-6)
1201415	Tax Planning	3 (3-0-6)
1201432	Problem in Auditing	3 (3-0-6)

3. Free Elective Courses not less than

6 Credits
Cr(Le-Pr-SS)*

xxxxxxx	Free Elective	3 (3-0-6)
xxxxxxx	Free Elective	3 (3-0-6)

At least six credits of free electives can be chosen from any course offered by Mae Fah Luang University.

* Cr : Credit
Le : Lecture
Pr : Practice
SS : Self Study



Bachelor of Economics Program B.Econ.

Total Credit	138 Credits
1. General Education Courses	30 Credits
2. Specific Requirement Courses	102 Credits
2.1 Core Courses	51 Credits
2.2 Major Required Courses	42 Credits
2.3 Major Elective Courses	9 Credits
3. Free Elective Courses	6 Credits

1. General Education Courses

30 Credits
Cr(Le-Pr-SS)*

1001102	Environment and Development	2 (2-0-4)
1001103	Thai Language Skills	2 (2-0-4)
1001112	Logical Thinking	2 (1-2-3)
1001131	World Community	2 (2-0-4)
1001132	Politics and Government	3 (3-0-6)
1006217	English for Communication	3 (2-2-5)
1006218	Academic Reading and Writing	3 (2-2-5)
1006301	College Writing	2 (2-0-4)
1006302	Academic Oral Skills	2 (2-0-4)
1006303	English for Professional Purposes	1 (0-2-1)
1006304	English for Professional Success	1 (0-2-1)
1203141	Organization and Management	2 (2-0-4)
1301104	Introduction to Information Technology	3 (2-2-5)
1804104	Personal and Community Health	2 (2-0-4)

2. Specific Requirement Courses

102 Credits

2.1 Core Courses

51 Credits
Cr(Le-Pr-SS)*

1106106	Foundation Mathematics for Business	3 (3-0-6)
1106281	Probability and Statistics	3 (3-0-6)
1201111	Principles of Accounting	3 (3-0-6)
1202112	Microeconomics	3 (3-0-6)
1202113	Macroeconomics	3 (3-0-6)
1202211	Mathematics for Economics	3 (2-2-5)
1202212	Economic Statistics	3 (3-0-6)
1202213	Microeconomic Theory	3 (3-0-6)
1202214	Macroeconomic Theory	3 (3-0-6)
1202241	International Economics	3 (3-0-6)
1202251	Economics of Money and Banking	3 (3-0-6)
1202252	Economics of Public Finance	3 (3-0-6)
1202311	Econometrics	3 (2-2-5)
1202361	Economic History	3 (3-0-6)
1202398	Research Methodology	3 (2-2-5)
1202464	Thai Economy	3 (3-0-6)
1202490	Economics Development	3 (3-0-6)

2.2 Major Required Courses

42 Credits
Cr(Le-Pr-SS)*

1202364	Sufficiency Economy	3 (2-2-5)
1202371	Agricultural Economics	3 (3-0-6)
1202397	Natural Resource and Environmental Economics	3 (2-2-5)
1202399	Project Feasibility Analysis	3 (2-2-5)
1202441	International Trade Theory and Policy	3 (3-0-6)
1202443	International Economic Cooperation and Trade Negotiation	3 (3-0-6)
1202472	Monetary Theory and Policy	3 (3-0-6)

1202481	Financial Economics	3 (3-0-6)
1202482	Managerial Economics	3 (3-0-6)
1202491	Co-operative Education	9 (0-40-18)
	or	
1202492	Overseas Training	9 (0-40-18)
	or	
1202493	Research Project in Economics	9 (0-40-18)
1202495	International Monetary Economics and Finance	3 (3-0-6)
1202499	Special Problem	3 (0-9-3)
1202443	International Economic Cooperation and Trade Negotiation	3 (3-0-6)
1202461	Thai Economy	3 (3-0-6)
1202462	Economics of the New World	3 (3-0-6)
1202498	Independent Study	3 (0-9-3)

2.3 Major Elective Courses

		9 Credits
Select from the following		Cr(Le-Pr-SS)*
1202332	Globalization and Logistic Management	3 (3-0-6)
1202341	Economics and Laws	3 (3-0-6)
1202342	International Business in Practice	3 (3-0-6)
1202362	Rural and Urban Economics	3 (3-0-6)
1202372	Agribusiness and Agro-industry	3 (3-0-6)
1202382	Human Resources Economics	3 (3-0-6)
1202421	Selected Greater Mekong Sub-region Countries Economy	3 (3-0-6)
1202422	Cross Border Trade Economy	3 (3-0-6)
1202470	Theory of Taxation	3 (3-0-6)
1202471	Cooperative Economics	3 (3-0-6)
1202483	Industrial Organization	3 (3-0-6)
1202484	Labor Economics	3 (3-0-6)
1202485	Health Economics	3 (3-0-6)
1202486	Economics of Inequality and Poverty	3 (3-0-6)
1202487	Economics of Energy	3 (3-0-6)
1202488	Economics Evaluation Techniques for Environmental Impacts	3 (3-0-6)
1202489	Public Economics Policy	3 (3-0-6)
1202494	Corporate Finance for Economics	3 (3-0-6)
1202496	Special Topic in Economics	3 (3-0-6)

3. Free Elective Courses not less than

		6 Credits
		Cr(Le-Pr-SS)*
xxxxxxx	Free Elective	3 (3-0-6)
xxxxxxx	Free Elective	3 (3-0-6)

At least six credits of free electives can be chosen from any course offered by Mae Fah Luang University.

* Cr : Credit
Le : Lecture
Pr : Practice
SS : Self Study



Bachelor of Business Administration Program in Business Administration B.B.A. (Business Administration)

Total Credit

1. General Education Courses

2. Specific Requirement Courses

2.1 Core Courses

2.2 Major Required Courses

2.3 Major Elective Courses

3. Free Elective Courses

128 Credits

30 Credits

92 Credits

47 Credits

36 Credits

9 Credits

6 Credits

1. General Education Courses

30 Credits

Cr(Le-Pr-SS)*

1001103	Thai Language Skills	2 (2-0-4)
1001112	Logical Thinking	2 (1-2-3)
1001121	Recreation and Sport for Well-Being	1 (0-2-1)
1001131	World Community	2 (2-0-4)
1001141	General Psychology	3 (3-0-6)
1006217	English for Communication	3 (2-2-5)
1006218	Academic Reading and Writing	3 (2-2-5)
1006301	College Writing	2 (2-0-4)
1006302	Academic Oral Skills	2 (2-0-4)
1006303	English for Professional Purposes	1 (0-2-1)
1006304	English for Professional Success	1 (0-2-1)
1203141	Organization and Management	2 (2-0-4)
1301104	Introduction to Information Technology	3 (2-2-5)
1601101	Introduction to Legal Principles	3 (3-0-6)

2. Specific Requirement Courses

92 Credits

2.1 Core Courses

47 Credits

Cr(Le-Pr-SS)*

1106106	Foundation Mathematics for Business	3 (3-0-6)
1201113	Elementary Accounting 1	3 (3-0-6)
1201114	Elementary Accounting 2	3 (3-0-6)
1202112	Microeconomics	3 (3-0-6)
1202113	Macroeconomics	3 (3-0-6)
1203103	Statistics and Research Method for Business	3 (3-0-6)
1203121	Principles of Marketing	3 (3-0-6)
1203131	Principles of Business	2 (2-0-4)
1203201	Taxation	3 (3-0-6)
1203212	Business Finance	3 (3-0-6)
1203243	Organizational Behavior	3 (3-0-6)
1203252	Quantitative Analysis	3 (3-0-6)
1203331	Business Research	3 (3-0-6)
1301342	Management Information Systems	3 (3-0-6)
1301383	Electronic Commerce	3 (3-0-6)
1600101	Business Laws	3 (3-0-6)

2.2 Major Required Courses

36 Credits

Cr(Le-Pr-SS)*

1201212	Managerial Accounting	3 (3-0-6)
1203242	Human Resources Management	3 (3-0-6)
1203253	Production and Operations Management	3 (3-0-6)
1203302	Project Feasibility Study and Evaluation	3 (3-0-6)
1203311	Financial Management	3 (3-0-6)
1203321	Marketing Management	3 (3-0-6)
1203332	Business Venture and Entrepreneurship	3 (3-0-6)
1203362	International Business Management	3 (3-0-6)

1203432	Strategic Management	3 (3-0-6)
1203491	Co-operative Education	9 (0-40-18)
1203492	Overseas Training	9 (0-40-18)
1203493	Research Project in Business Administration	9 (0-40-18)

2.3 Major Elective Courses

9 Credits
Cr(Le-Pr-SS)*

	Select from the following	
1201315	International Accounting	3 (3-0-6)
1202251	Economics of Money and Banking	3 (3-0-6)
1203312	Principles of Investment	3 (3-0-6)
1203313	Financial Planning and Control	3 (3-0-6)
1203314	Financial Report Analysis	3 (3-0-6)
1203322	Consumer Behavior	3 (3-0-6)
1203323	Service Marketing	3 (3-0-6)
1203324	Retail Marketing	3 (3-0-6)
1203325	Agricultural Product Marketing	3 (3-0-6)
1203326	Industrial Product Marketing	3 (3-0-6)
1203327	Marketing Communication	3 (3-0-6)
1203328	Electronic Marketing	3 (3-0-6)
1203329	Sale Management and Salesmanship	3 (2-2-5)
1203342	Business Psychology	3 (3-0-6)
1203343	Organization of Development	3 (3-0-6)
1203344	Managing Change	3 (3-0-6)
1203345	Dimension of Leadership	3 (3-0-6)
1203346	Group Dynamics	3 (3-0-6)
1203347	Work Motivation and Productivity	3 (3-0-6)
1203351	Business Logistic Management	3 (3-0-6)
1203363	Cross-Culture Management	3 (3-0-6)
1203364	Business Negotiation	3 (3-0-6)
1203365	International Trade	3 (3-0-6)
1203366	International Finance	3 (3-0-6)
1203367	Export - Import Management	3 (3-0-6)
1203381	Introduction to Personal Financial Planning	3 (3-0-6)
1203382	Investment Planning	3 (3-0-6)
1203383	Income Tax Planning	3 (3-0-6)
1203403	Project in Business Administration	3 (1-4-4)
1203404	Innovation and Technology Management	3 (3-0-6)
1203411	Securities Analysis	3 (3-0-6)
1203412	Investment Banking	3 (3-0-6)
1203421	Marketing Research	3 (2-2-5)
1203422	Strategic Brand Management	3 (3-0-6)
1203461	International Marketing	3 (3-0-6)
1203462	Business Management in Asian Countries	3 (3-0-6)
1203463	Special Topic in International Business	3 (3-0-6)
1203464	International Business Marketing	3 (3-0-6)
1203481	Insurance Planning and Risk Management	3 (3-0-6)
1203482	Employee Benefits, Retirement and Estate Planning	3 (3-0-6)
1203497	Seminar on Business Administration	3 (3-0-6)
1600102	International Business Laws	3 (3-0-6)

3. Free Elective Courses not less than

6 Credits
Cr(Le-Pr-SS)*

xxxxxxx	Free Elective	3 (3-0-6)
xxxxxxx	Free Elective	3 (3-0-6)

At least six credits of free electives can be chosen from any course offered by Mae Fah Luang University.

* Cr : Credit
Le : Lecture
Pr : Practice
SS : Self Study



Bachelor of Business Administration Program in Tourism Management B.B.A. (Tourism Management)

Total Credit	134 Credits
1. General Education Courses	30 Credits
2. Specific Requirement Courses	98 Credits
2.1 Core Courses	52 Credits
2.2 Major Required Courses	40 Credits
2.3 Major Elective Courses	6 Credits
3. Free Elective Courses	6 Credits

1. General Education Courses	30 Credits
	Cr(Le-Pr-SS)*
1001101 Man and Society	2 (2-0-4)
1001103 Thai Language Skills	2 (2-0-4)
1001111 Cultural Studies	2 (2-0-4)
1001121 Recreation and Sport for Well-Being	1 (0-2-1)
1001132 Politics and Government	3 (3-0-6)
1001141 General Psychology	3 (3-0-6)
1006217 English for Communication	3 (2-2-5)
1006218 Academic Reading and Writing	3 (2-2-5)
1006301 College Writing	2 (2-0-4)
1006302 Academic Oral Skills	2 (2-0-4)
1006303 English for Professional Purposes	1 (0-2-1)
1006304 English for Professional Success	1 (0-2-1)
1203141 Organization and Management	2 (2-0-4)
1301104 Introduction to Information Technology	3 (2-2-5)

2. Specific Requirement Courses	98 Credits
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2.1 Core Courses	52 Credits
	Cr(Le-Pr-SS)*
1106100 Mathematics for Life	3 (3-0-6)
1201112 Principles of Accounting 1	2 (2-0-4)
1201211 Principles of Accounting 2	2 (2-0-4)
1201212 Managerial Accounting	3 (3-0-6)
1202114 Introduction to Economics	3 (3-0-6)
1203103 Statistics and Research Method for Business	3 (3-0-6)
1203121 Principles of Marketing	3 (3-0-6)
1203132 Principles of Business Management	3 (3-0-6)
1203201 Taxation	3 (3-0-6)
1203212 Business Finance	3 (3-0-6)
1203242 Human Resources Management	3 (3-0-6)
1203302 Project Feasibility Study and Evaluation	3 (3-0-6)
1203332 Business Venture and Entrepreneurship	3 (3-0-6)
1203432 Strategic Management	3 (3-0-6)
1207204 Service Operations Management	3 (3-0-6)
1301342 Management Information Systems	3 (3-0-6)
1301383 Electronic Commerce	3 (3-0-6)
1601101 Introduction to Legal Principles	3 (3-0-6)

2.2 Major Required Courses	40 Credits
	Cr(Le-Pr-SS)*
1205112 Introduction to Tourism	3 (3-0-6)
1205204 Sustainable Tourism	3 (3-0-6)
1205205 Tourism Geography	3 (2-2-5)
1205211 Tourism Business Management	3 (3-0-6)

1205301	Ethics and Psychology for Service Industry	3 (3-0-6)
1205314	Tourism Planning and Development	3 (3-0-6)
1205315	Ecotourism	3 (2-2-5)
1205332	MICE Management	3 (2-2-5)
1205336	Principles of Tour Guide	3 (2-2-5)
1205392	Professional Experience in Tourism Management	3 (0-9-3)
1205482	Seminar in Tourism Management	1 (0-2-1)
1205495	Co-operative Education	6 (0-40-12)
1207201	Tourism and Hospitality Industry Marketing	3 (3-0-6)

2.3 Major Elective Courses

6 Credits

Select from the following

Cr(Le-Pr-SS)*

1205303	Thai Arts and Culture	3 (2-2-5)
1205321	Introduction to Hotel Management	3 (2-2-5)
1205322	Food and Beverage Management	3 (2-2-5)
1205334	Airlines Business Management	3 (2-2-5)
1205335	Cruise Lines Business Management	3 (2-2-5)
1205337	Fundamentals of Passenger Transportation	3 (2-2-5)
1205341	Destination Management	3 (2-2-5)
1205342	Souvenir Business Management	3 (3-0-6)
1205343	Fundamentals of Special Events and Recreation Management	3 (2-2-5)
1205344	Special Interest Tourism Management	3 (2-2-5)

3. Free Elective Courses not less than

6 Credits

Cr(Le-Pr-SS)*

xxxxxxx	Free Elective	3 (3-0-6)
xxxxxxx	Free Esslective	3 (3-0-6)

At least six credits of free electives can be chosen from any course offered by Mae Fah Luang University.

* Cr : Credit

Le : Lecture

Pr : Practice

SS : Self Study



Bachelor of Business Administration Program in Hospitality Industry Management B.B.A. (Hospitality Industry Management)

Total Credit	134	Credits
1. General Education Courses	30	Credits
2. Specific Requirement Courses	98	Credits
2.1 Core Courses	52	Credits
2.2 Major Required Courses	40	Credits
2.3 Major Elective Courses	6	Credits
3. Free Elective Courses	6	Credits

1. General Education Courses

30 Credits

Cr(Le-Pr-SS)*

1001101	Man and Society	2 (2-0-4)
1001103	Thai Language Skills	2 (2-0-4)
1001111	Cultural Studies	2 (2-0-4)
1001112	Logical Thinking	2 (1-2-3)
1001121	Recreation and Sport for Well-Being	1 (0-2-1)
1001132	Politics and Government	3 (3-0-6)
1001141	General Psychology	3 (3-0-6)
1006217	English for Communication	3 (2-2-5)
1006218	Academic Reading and Writing	3 (2-2-5)
1006301	College Writing	2 (2-0-4)
1006302	Academic Oral Skills	2 (2-0-4)
1006303	English for Professional Purposes	1 (0-2-1)
1006304	English for Professional Success	1 (0-2-1)
1203141	Organization and Management	2 (2-0-4)
1301104	Introduction to Information Technology	3 (2-2-5)

2. Specific Requirement Courses

98 Credits

2.1 Core Courses

52 Credits

Cr(Le-Pr-SS)*

1106100	Mathematics for Life	3 (3-0-6)
1201112	Principles of Accounting 1	2 (2-0-4)
1201211	Principles of Accounting 2	2 (2-0-4)
1201212	Managerial Accounting	3 (3-0-6)
1202114	Introduction to Economics	3 (3-0-6)
1203103	Statistics and Research Method for Business	3 (3-0-6)
1203121	Principles of Marketing	3 (3-0-6)
1203132	Principles of Business Management	3 (3-0-6)
1203201	Taxation	3 (3-0-6)
1203212	Business Finance	3 (3-0-6)
1203242	Human Resources Management	3 (3-0-6)
1203302	Project Feasibility Study and Evaluation	3 (3-0-6)
1203332	Business Venture and Entrepreneurship	3 (3-0-6)
1203432	Strategic Management	3 (3-0-6)
1207204	Service Operation Management	3 (3-0-6)
1301314	Hotel Information Technology Application	3 (2-2-5)
1301383	Electronic Commerce	3 (3-0-6)
1601101	Introduction to Legal Principles	3 (3-0-6)

2.2 Major Required Courses

40 Credits

Cr(Le-Pr-SS)*

1205301	Ethics and Psychology for Service Industry	3 (3-0-6)
1205322	Food and Beverage Management	3 (2-2-5)
1205332	MICE Management	3 (2-2-5)
1207101	Introduction to Hospitality Industry	3 (3-0-6)
1207201	Tourism and Hospitality Industry Marketing	3 (3-0-6)
1207211	Hotel and Lodging Management	3 (2-2-5)

1207212	Housekeeping Management	3 (2-2-5)
1207213	Front Office Management	3 (2-2-5)
1207214	Resort, Timeshare and Leisure Management	3 (3-0-6)
1207221	Food Nutrition and Hygiene	3 (2-2-5)
1207391	Professional Experience in Hospital industry Management	3 (0-9-3)
1207481	Seminar in Hospitality Industry	1 (0-2-1)
1207495	Co-operative Education	6 (0-40-12)

2.3 Major Elective Courses

Select from the following		6 Credits Cr(Le-Pr-SS)*
1205334	Airlines Business Management	3 (2-2-5)
1205335	Cruise Lines Business Management	3 (2-2-5)
1205337	Fundamentals of Passenger Transportation	3 (3-0-6)
1207202	Property Development and Planning	3 (3-0-6)
1207205	International Tourism and Hospitality Business Management	3 (3-0-6)
1207215	Facilities Management	3 (3-0-6)
1207401	Revenue Management	3 (3-0-6)
1207421	Management of Restaurant Design and Application	3 (3-0-6)
1207422	Gastronomic Restaurant Experience	3 (2-2-5)
1207423	Kitchen Management	3 (2-2-5)
1207424	Food Preparation and Culinary Skills	3 (2-2-5)

3. Free Elective Courses not less than

		6 Credits Cr(Le-Pr-SS)*
xxxxxxx	Free Elective	3 (3-0-6)
xxxxxxx	Free Elective	3 (3-0-6)

At least six credits of free electives can be chosen from any course offered by Mae Fah Luang University.

* Cr : Credit

Le : Lecture

Pr : Practice

SS : Self Study



Bachelor of Business Administration Program in Aviation Business Management B.A. (Aviation Business Management)

Total Credit	137 Credits
1. General Education Courses	31 Credits
2. Specific Requirement Courses	100 Credits
2.1 Core Courses	39 Credits
2.2 Major Required Courses	52 Credits
2.3 Major Elective Courses	9 Credits
3. Free Elective Courses	6 Credits

1. General Education Courses	31 Credits
	Cr(Le-Pr-SS)*
1001101 Man and Society	2 (2-0-4)
1001103 Thai Language Skills	2 (2-0-4)
1001111 Cultural Studies	2 (2-0-4)
1001121 Recreation and Sport for Well-Being	1 (0-2-1)
1001141 General Psychology	3 (3-0-6)
1006217 English for Communication	3 (2-2-5)
1006218 Academic Reading and Writing	3 (2-2-5)
1006301 College Writing	2 (2-0-4)
1006302 Academic Oral Skills	2 (2-0-4)
1006303 English for Professional Purposes	1 (0-2-1)
1006304 English for Professional Success	1 (0-2-1)
1202114 Introduction to Economics	3 (3-0-6)
1301104 Introduction to Information Technology	3 (2-2-5)
1601101 Introduction to Legal Principles	3 (3-0-6)

2. Specific Requirement Courses	100 Credits
2.1 Core Courses	39 Credits
	Cr(Le-Pr-SS)*
1001107 Cultural Diversity Awareness	3 (3-0-6)
1006306 English for Aviation Business 1	3 (2-3-5)
1006307 English for Aviation Business 2	3 (2-3-5)
1203103 Statistics and Research Method for Business	3 (3-0-6)
1203121 Principles of Marketing	3 (3-0-6)
1203132 Principles of Business Management	3 (3-0-6)
1203242 Human Resources Management	3 (3-0-6)
1210101 Personality Development	3 (3-0-6)
1210102 Introduction to Aviation Business Management	3 (3-0-6)
1210201 Aviation Business Information System	3 (3-0-6)
1210203 Marketing for Aviation Business	3 (3-0-6)
1210307 Laws and Regulations in Aviation Industry	3 (3-0-6)
1301383 Electronic Commerce	3 (3-0-6)
	39 (37-6)

2.2 Major Required Courses	52 Credits
	Cr(Le-Pr-SS)*
1007101 Chinese 1	3 (3-0-6)
1007102 Chinese 2	3 (3-0-6)
1007206 Chinese for Aviation Business 1	3 (2-3-5)
1007207 Chinese for Aviation Business 2	3 (2-3-5)
or	
1008105 Basic Japanese 1	3 (2-3-5)
1008106 Basic Japanese 2	3 (2-3-5)
1008109 Japanese for Aviation Business 1	3 (2-3-5)
1008110 Japanese for Aviation Business 2	3 (2-3-5)
or	

1009101	French 1	3 (3-0-6)
1009102	French 2	3 (3-0-6)
1009103	French for Aviation Business 1	3 (2-3-5)
1009104	French for Aviation Business 2	3 (2-3-5)
	or	
1009130	German 1	3 (2-3-5)
1009131	German 2	3 (2-3-5)
1009132	German for Aviation Business 1	3 (2-3-5)
1009133	German for Aviation Business 1	3 (2-3-5)
1210202	Psychology for Service Industry	3 (3-0-6)
1210301	Impressive Presentation and Effective Negotiation	3 (2-2-5)
1210302	In-flight Service Management	3 (3-0-6)
1210303	In-flight Technical Equipment Use	2 (2-0-4)
1210304	Social Etiquette and Service Attitude	3 (3-0-6)
1210305	Aviation Business Health and Hygiene	3 (3-0-6)
1210306	Introduction to Air Cargo Services	3 (3-0-6)
1210401	Airline Catering Management	3 (3-0-6)
1210402	Passenger Ground Services	3 (3-0-6)
1210403	Aviation Business Safety and Security	3 (3-0-6)
1210404	Professional Experience in Aviation Business	3 (3-0-6)
1210405	Co-operative Education	9 (0-40-18)
	or	
1210406	Overseas Training	9 (0-40-18)

2.3 Major Elective Courses

9 Credits
Cr(Le-Pr-SS)*

1203141	Organization and Management	2 (2-0-4)
1203332	Business Venture and Entrepreneurship	3 (3-0-6)
1210309	Aperitif and Beverages Knowledge	3 (3-0-6)
1210310	Aviation and Related Industries	3 (3-0-6)
1210311	Group Discussion and Interview Techniques	3 (3-0-6)
1210312	Thai Charisma	3 (3-0-6)
1210313	Customer Satisfaction Survey	3 (3-0-6)

3. Free Elective Courses not less than

6 Credits
Cr(Le-Pr-SS)*

xxxxxxx	Free Elective	3 (3-0-6)
xxxxxxx	Free Elective	3 (3-0-6)

At least six credits of free electives can be chosen from any course offered by Mae Fah Luang University

* Cr : Credit
Le : Lecture
Pr : Practice
SS : Self Study

Descriptions ::

School of Management

1201111 Principles of Accounting

3 (3-0-6)

Prerequisite: None

Accounting concepts and objectives; accounting processes; accounting cycles; merchandising accounting; bank reconciliation; preparation of financial statements and reports; manufacturing accounting; system planning for inventory and purchases control.

1201112 Principles of Accounting 1

2 (2-0-4)

Prerequisite: None

Accounting principles and objectives; financial accounting principles for merchandising, manufacturing and servicing businesses; using of accounting information; accounting cycles and preparation of financial statements and reports.

1201113 Elementary Accounting 1

3 (3-0-6)

Prerequisite: None

Accounting concepts and principles; accounting processes; accounting cycles; preparation of financial statements and reports.

1201114 Elementary Accounting 2

3 (3-0-6)

Prerequisite: 1201111 or 1201113

Merchandising and manufacturing operations and accounting cycles; stockholders' equity transactions; preparation of financial statements from incomplete information; preparation of statement of cash flow; accounting for value-added taxes.

1201211 Principles of Accounting 2

2 (2-0-4)

Prerequisite: 1201111 or 1201113

Recording business transactions for assets, liabilities and owners' equity, revenues and expenses; partnership; corporations; information systems; manufacturing business.

1201213 Intermediate Accounting 1

3 (3-0-6)

Prerequisite: 1201114

Accounting recording; classification, presentation and valuation of financial statements, disclosure in accordance with accounting standards of assets.

1201214 Intermediate Accounting 2

3 (3-0-6)

Prerequisite: 1201114 and 1201213

Accounting recording; classification, presentation and valuation of financial statements, disclosure in accordance with accounting standards of liabilities and owners' equity.

1201311 Managerial Accounting 1

3 (3-0-6)

Prerequisite: 1201113 and 1201114

Roles and concepts of cost accounting; cost estimation; standard costing; calculating and recording cost of goods sold and services cost; process costing; job-order costing; activity-based costing.

1201312 Accounting Theory

3 (3-0-6)

Prerequisite: 1201213 and 1201214

Concepts of accounting theory and accounting standards; evolution, basic assumption and framework; revenue expense recognition; performance measurement and reporting; effects of accounting standard form price level changes; roles of accounting professional institute.

1201313 Managerial Accounting 2

3 (3-0-6)

Prerequisite: 1201311 and 1201314

Roles of managerial accounting; responsibilities accounting; performance measurement; cost-volume-profit analysis, absorption and variable costing for decision making; pricing; cost behavior; managerial accounting.

- 1201314 Profit Planning and Control 3 (3-0-6)**
Prerequisite: 1201313 or 1201320
 Planning and control operation; master budget; static budget; flexible budget; zero-based budget; budgeting of merchandising, manufacturing and servicing companies; profit planning and control in international business.
- 1201315 International Accounting 3 (3-0-6)**
Prerequisite: 1201214 and 1203212
 System and methods of accounting for international business; effects of changes in foreign currency; collecting, analysis and reporting of international accounting, international management; tariff structure and tax collection; future international tax standard.
- 1201316 Hotel Accounting 3 (3-0-6)**
Prerequisite: 1201214 and 1203141
 Features of hotel business; hotel accounting systems; processing hotel business transactions.
- 1201317 Bank Accounting 3 (3-0-6)**
Prerequisite: 1201214 and 1203212
 Features of commercial bank accounting systems; head office and branches accounting systems; bank of thailand regulations and internal reporting systems for management.
- 1201318 Governmental Accounting 3 (3-0-6)**
Prerequisite: 1201214 and 1203212
 Thai government accounting systems; fund management for public sectors.
- 1201321 Computerized Accounting System 3 (2-2-5)**
Prerequisite: 1201311 and 1301342
 Concepts of accounting information system (AIS); principles of systems design for accounting; information retrieval.
- 1201322 Cost Accounting 3 (3-0-6)**
Prerequisite: 1201114
 Roles and concepts of cost accounting; cost estimation; standard costing; calculating and recording cost of goods sold and services cost; process costing; job-order costing; activity-based costing.
- 1201323 Managerial Accounting 3 (3-0-6)**
Prerequisite: 1201322 and 1203141
 Roles of managerial accounting; responsibilities accounting; performance measurement; cost-volume-profit analysis; absorption and variable costing for decision making; pricing; cost behavior; managerial Accounting.
- 1201330 Accounting Information System 3 (3-0-6)**
Prerequisite: 1201322 and 1301342
 Accounting information systems concepts, computer technology, computer security, transaction processing systems used in accounting; the revenue cycle, the expenditure cycle, resource management, the general ledger and reporting system, and accounting controls for such systems; hardware and software elements needed to support accounting information systems, and implementation of accounting transaction processing systems.
- 1201331 Auditing 3 (3-0-6)**
Prerequisite: 1201213 and 1201214
 Roles and responsibilities of auditors; development of auditing systems; professional ethics; auditing standard; audit plan, techniques and procedures; report and disclosure.
- 1201332 Internal Auditing and Control 3 (3-0-6)**
Prerequisite: 1201213 and 1201214
 Principles of auditing and internal control; role and responsibility of internal auditor; internal audit standards of public and private sectors; techniques and procedures of internal audit practices; reporting; management of internal audit office.

1201333 Analysis and Design of Accounting Information System 3 (3-0-6)*Prerequisite: 1201330*

Assess accounting information systems for appropriate internal control structures; the analysis, design, development and implementation of integrated organizational computer-based information systems with an emphasis on the accounting cycle, database design requirements, information system controls, financial reporting, and management responsibilities for compliance with laws and regulations.

1201334 Analysis and Design of Accounting Information System 3 (2-2-5)*Prerequisite: 1201332*

Assess accounting information systems for appropriate internal control structures; the analysis, design, development and implementation of integrated organizational computer-based information systems with an emphasis on the accounting cycle, database design requirements, information system controls, financial reporting, and management responsibilities for compliance with laws and regulations.

1201345 Accounting for Specific Enterprises 3 (3-0-6)*Prerequisite: 1201214 and 1201213*

Recognition and measurement of income and expense; presentation of financial statement, and disclosure in specific types of businesses such as finance, insurance, real estate, import-export, hotel, hospital, infrastructure, exploration and production of natural resources, communication, government and non-profit organizations.

1201346 Current Issues in Accounting 3 (3-0-6)*Prerequisite: 1201214 and 1201213*

In-depth study and discussion of various current issues in accounting.

1201347 Cost Management 3 (3-0-6)*Prerequisite: 1201322*

Study the use of cost information in planning, control, and performance evaluation. To improve efficiency and effectiveness for making decision of a whole management level.

1201348 Fraud Auditing 3 (3-0-6)*Prerequisite: 1201331*

Study the guidance of fraud auditing and weakness examination of operation and audit system, fraud pattern, sign, auditing techniques for detection and investigation, discovered fraud, gathering evidence, concluding and writing reports, forensic and law enforcement, responsibilities in fraud field and ethical principles of internal auditor.

1201411 Advanced Accounting 1 3 (3-0-6)*Prerequisite: 1201213 and 1201214*

Head office and branch accounting; accounting for mergers; preparation of consolidated financial statement; accounting for investment in associated companies and foreign subsidiaries.

1201412 Advanced Accounting 2 3 (3-0-6)*Prerequisite: 1201213 and 1201214*

Accounting for installment sales; consignments; leases; joint ventures; fund accounting; accounting for non-profit organizations.

1201413 Tax Accounting 3 (3-0-6)*Prerequisite: 1201114 or 1203201*

Principle and procedures of accounting for personal income tax, corporate income tax, value added tax and specific business tax in accordance with revenue codes and financial regulations.

1201414 Financial Report 3 (3-0-6)*Prerequisite: 1201213 and 1201214*

Financial statement preparation; elements and forms of financial statements; disclosures and notes; interim financial statements; financial statement of financial distress companies and liquidation settlement accounting; segment reports; accounting changes and correction of accounting errors.

- 1201415 Tax Planning 3 (3-0-6)**
Prerequisite: 1201413
 Tax planning; decision making of types of business for tax minimization; double tax convention.
- 1201421 Accounting Information Analysis 3 (3-0-6)**
Prerequisite: 1203212
 Thailand accounting standards and procedures; techniques and procedures for interpretation and evaluation of financial information.
- 1201422 Business Information Communication 3 (2-2-5)**
Prerequisite: 1301102
 Importance of business information; basic technology of information communication; local area network; application, management and trends.
- 1201423 Accounting Information System Design 3 (2-2-5)**
Prerequisite: 1301221
 Concept of information system design; function of accounting information system; transaction cycle; business development cycle; case study.
- 1201431 Computerized Accounting System Auditing 3 (2-2-5)**
Prerequisite: 1201321 and 1201331
 Concept of computerized analysis; management and application; collection and evaluation of evidences; computerized thai auditing standards; auditing reports of certified public accountants (CPA) and internal audits.
- 1201432 Problem in Auditing 3 (3-0-6)**
Prerequisite: 1201331
 Problems confronting practices of auditors; professional ethics of auditors; auditing standards; development of problems on auditing; case study.
- 1201433 Financial Reporting and Statement Analysis 3 (3-0-6)**
Prerequisite: 1201214 and 1201213
 Application of the generally accepted accounting principles for corporate financial reporting and fundamental issues relating to asset valuation and liability valuation, income and expense measurement, and financial statement presentation for business organizations; techniques and tools used in financial statements analysis and interpretation of existing financial disclosures; critical analyses of financial reporting numbers as a basis for firm valuation assessment, and use of financial statement information to assess the risks and rewards of firm; cases are used extensively to enhance relevance.
- 1201434 Internal Control and International Audit 3 (3-0-6)**
Prerequisite: 1201214 and 1201213
 Student could be preparing to work as a training worker or a temporary employee at the provided training organizations; included Government and Non-Government Organization, one semester according to student's major subject. After finish, students have to send and present academic report to the major's teachers. The evaluation criterias are based on the evaluation results from the advisor of Co-operative Education, the officer at the organization and student's academic report.
- 1201491 Co-operative Education 9 (0-40-18)**
Prerequisite: None
 Student could be preparing to work as a training worker or a temporary employee at the provided training organizations; included Government and Non-Government Organization, one semester according to student's major subject. After finish, students have to send and present academic report to the major's teachers. The evaluation criterias are based on the evaluation results from the advisor of Co-operative Education, the officer at the organization and student's academic report.
- 1201492 Overseas Training 9 (0-40-18)**
Prerequisite: None
 Overseas training in organizations under university's supervision and evaluation.

1201493 Research Project in Accounting**9 (0-40-18)***Prerequisite: None*

Undergraduate research on current issues of Accounting under guidance of supervisor; practical works on scientific process; report writing and oral presentation.

1201497 Seminar in Accounting**3 (3-0-6)***Prerequisite: None*

Seminar on theories; practices and application of current accounting issues.

1202112 Microeconomics**3 (3-0-6)***Prerequisite: None*

Introduction to economics; concepts and theories of demand and supply; price mechanisms and output determination; market equilibrium; consumer behavior and utility maximization; theories of production and cost; determination of price and outputs in various product and factor markets.

1202113 Macroeconomics**3 (3-0-6)***Prerequisite: None*

Introduction to economics; national income and product; money and money markets; relationship among product, money and labor markets; international trade and payments; economic problems and macro economic policies.

1202114 Introduction Economics**3 (3-0-6)***Prerequisite: None*

Theories of micro and macro economics; economics analysis of supply, demand and market equilibrium; theories of consumer's behavior; production and cost; market structures and competitions; national income analysis; public finance; monetary policy; international economics and development.

1202211 Mathematics for Economics**3 (2-2-5)***Prerequisite : 1160103 and 1202112*

Intermediate mathematics as tools for economics analysis; differentiation, maximization and minimization of multivariate function; limit; constrained optimization; integration; definite and indefinite integrals; differential equations, mathematical programming.

1202212 Economic Statistics**3 (3-0-6)***Prerequisite: 1106281*

Basic statistical methods; regression; correlation; multiple regression; prediction; model selection; analysis of variance; time series; index numbers; application of statistical software.

1202213 Microeconomic Theory**3 (3-0-6)***Prerequisite: 1106103 and 1202112*

Theories of consumer behavior; theories of production and cost; analysis of price and output determination in various types of product and factor markets; introduction to welfare economics.

1202214 Macroeconomic Theory**3 (3-0-6)***Prerequisite: 1106103 and 1202113*

Evolution of concept and theories on macro economics from various schools of thought; theories of national income, output, employment and price; fiscal and monetary policies in solving deficit budget and balance of payments; theories of economic growth.

1202241 International Economics**3 (3-0-6)***Prerequisite: 1201111 or (1202112 and 1202113)*

Principles of international trade; transaction cost; balance of payment. Adjustments; foreign exchange markets; international trade policy and economic organizations.

1202251 Economics of Money and Banking**3 (3-0-6)***Prerequisite: 1202112 and 1202113*

Roles of money and credits in economic systems; money and financial market; roles of interest rates; functions of commercial and central banks; monetary and balance of payment policy.

- 1202252 Economics of Public Finance 3 (3-0-6)**
Prerequisite: 1202112 and 1202113
 Role of government; public and private sectors in economic systems; structures of public expenditures and revenues; principles of taxation; impacts of taxation; fiscal policy.
- 1202301 Research Methodology 3 (3-0-6)**
Prerequisite: 1202112 and 1202113
 Concepts and structures of rationale thinking; scientific approach and logic of fact finding; theoretical foundation related to social and economic studies; methodologies used in setting up conceptual framework.
- 1202302 Project Feasibility Analysis 3 (3-0-6)**
Prerequisite: 1202112 and 1202113
 Concepts, procedures and methodologies in analysis of projects; social and economic feasibilities; cost-benefit analysis; project implementation; cases studies.
- 1202331 Transportation and Communication Economics 3 (3-0-6)**
Prerequisite: 1202112 and 1202113
 Demand, supply and price determination of transportation; planning and policy; system development; application of e-commerce to transportation economics; trends.
- 1202332 Globalization and Logistic Management 3 (3-0-6)**
Prerequisite: 1202112 and 1202113
 International logistic management; transportation network changes; shipping management; problems and prospects.
- 1202341 Economics and Laws 3 (3-0-6)**
Prerequisite: None
 Relationship between economic systems and laws; impacts of laws and regulations on international trade and finance; foreign investment; international technology transfer; trade barriers; international dispute settlement; international economic organizations.
- 1202342 International Business 3 (3-0-6)**
Prerequisite: 1202241
 Historical background of international business; patterns of joint venture; international investment; import and export business; international business in practice; legal process and custom procedures; international payments; national policies of international business promotion; trends.
- 1202361 Economic History 3 (3-0-6)**
Prerequisite: 1202112 and 1202113
 Economic evolution; historical background of economic phenomena and thoughts; economic transition from rural to urban and old world to new world and central planning system to market system.
- 1202362 Economics of Urbanization 3 (3-0-6)**
Prerequisite: 1202112 and 1202113
 Linkages between rural and urban economics; stability and sustainability in agriculture, industry, environment, trading and services; role and structure of local government administration.
- 1202363 Sufficiency Economy 3 (3-0-6)**
Prerequisite: 1202112 and 1202113
 Concepts of sufficient economy; comparative analysis to new world economy; strategic planning of sufficient economy under globalization trends; analysis of opportunity and risk of economic liberalization, problems and prospects.
- 1202364 Sufficiency Economy 3 (2-2-5)**
Prerequisite: 1202113 and 1202112
 Concepts of sufficient economy; comparative analysis to new world economy; strategic planning of sufficient economy under globalization trends; analysis of opportunity and risk of economic liberalization, problems and prospects.

1202371 Agricultural Economics**3 (3-0-6)***Prerequisite: 1202112 and 1202113*

Role of agriculture in economic development; theory of production; agricultural products pricing; competitiveness; factors of production; infrastructure supporting agriculture; patterns and systems of production; mechanization; technology; organization; development plans for agricultural economics and agriculture in Thailand; trends.

1202372 Agribusiness and Agro-industry**3 (3-0-6)***Prerequisite: 1202112 and 1202113*

Agribusiness practices; organization theories and methods; creation of value-added products for domestic and international markets; problems and prospects.

1202381 Natural Resource and Environmental Economics**3 (3-0-6)***Prerequisite: 1202112 and 1202113*

Natural resources and environmental management for balanced and sustainable development; economic impacts of globalization on environments; current issues.

1202382 Human Resource Economics**3 (3-0-6)***Prerequisite: 1202112 and 1202113*

Roles of human resource in economic development; analysis of human resource investment in education, training labor mobilization and health; roles of human capital in economic development; policy planning of human resource development in Thailand; trends.

1202391 Professional Experience**3 (0-35-6)***Prerequisite: None*

Preparing students for future career, cooperative training organizations included government and non-government sectors under university's supervision and evaluation.

1202397 Natural Resource and Environmental Economics**3 (2-2-5)***Prerequisite: 1202113 and 1202112*

Natural resources and environmental management for balanced and sustainable development; economic impacts of globalization on environments; current issues.

1202398 Research Methodology**3 (2-2-5)***Prerequisite: 1202113 and 1202112*

Concepts and structures of rationale thinking; scientific approach and logic of fact finding; theoretical foundation related to social and economic studies; methodologies used in setting up conceptual framework.

1202399 Project Feasibility Analysis**3 (2-2-5)***Prerequisite: 1202113 and 1202112*

Concepts, procedures and methodologies in analysis of projects; social and economic feasibilities; cost-benefit analysis; project implementation; cases studies.

1202421 Greater Mekong Subregion Economics**3 (3-0-6)***Prerequisite: 1202113 and 1202114*

Micro-macro economics; political economy and development of countries in the Greater Mekong Subregion (GMS); economic cooperation and integration; appropriated policies and agreements for collaboration; prospects.

1202422 Economics of Cross Border Trade**3 (3-0-6)***Prerequisite: 1202113 and 1202114*

Patterns of cross border trade; trade barriers and problems; potentials and opportunities of cross border trade; cases studies.

1202441 International Trade Theory and Policy**3 (3-0-6)***Prerequisite: 1202241*

Principles of international trade; patterns, agreements and policies; measures of import control; export promotion; import substitution; international trade organizations; international trade policy of Thailand.

- 1202442 International Monetary Economics 3 (3-0-6)**
Prerequisite: 1202241
 Monetary theories; exchange rate; balance of payment problems; analysis of relationship between macro economics variables and balance of payment; international financial systems; internal and external balances; foreign aids and loans; current issues and trends.
- 1202443 International Economic Cooperation and Trade Negotiation 3 (3-0-6)**
Prerequisite: 1202241
 Historical development of international trade and economic cooperation; trade negotiation and dialogues; international economic collaboration for mutual benefits; current issues and trends.
- 1202461 Thai Economy 3 (3-0-6)**
Prerequisite: 1202113 and 1202114
 Historical development of Thai economy; economic systems and structures; socio-economic situations; problems and prospects.
- 1202462 Economics of the New World 3 (3-0-6)**
Prerequisite: 1202213 and 1202214
 Concepts and theories of economic development; impacts of advanced technology on new economy; interaction between new economy and global economic systems; appropriate technology for development; policy and strategy for Thailand.
- 1202463 Economics of Good Governance 3 (3-0-6)**
Prerequisite: 1202213 and 1202214
 Development and practice of good governance in public and private sectors; opportunity for regional and international economic linkages and globalization.
- 1202464 Thai Economy 3 (3-0-6)**
Prerequisite: 1202113 and 1202112
 Historical development of Thai economy; economic systems and structures; socio-economic situations; problems and prospects.
- 1202470 Theory of Taxation 3 (3-0-6)**
Prerequisite: 1202252
 Criteria for tax analysis; tax incidence in partial and general equilibrium framework; behavioral effects of major taxes: income tax, international tax, sales tax, property tax; roles of multi-level government taxes in economic system; fiscal policy and public debt.
- 1202471 Cooperative Economics 3 (3-0-6)**
Prerequisite: 1202113 and 1202112
 History and theories of cooperatives; development of cooperatives in Thailand; role of government in cooperatives; establishment and management in cooperatives; rural development through cooperatives; experiences of rural development through cooperatives in Thailand, South Korea, China, Japan, and some countries in Europe.
- 1202481 Financial Economics 3 (3-0-6)**
Prerequisite: 1202213
 Types of portfolio; theories of decision making in portfolio investment; capital asset pricing and price equilibrium; theories of efficient market and earning evaluation of portfolio investment.
- 1202482 Managerial Economics 3 (3-0-6)**
Prerequisite: 1202213
 Analysis of demand, production and cost; profit planning; price and output determination in different market structures; price and output determination in practice; analysis of decision-making procedure; various types of forecasting methodologies and models.
- 1202483 Industrial Organization 3 (3-0-6)**
Prerequisite 1202213
 Structure of industrial organizations; relationship of structure of industrial organizations and technological progress; government roles related to the structure and behavior of organizations.

1202484 Labor Economics 3 (3-0-6)*Prerequisite: 1202113 and 1202112*

Concepts and theories of labour market functioning; theories of labour demand and supply; wage determination; labour migration; unemployment; role of labour organizations; government policies in the labour market.

1202485 Health Economics 3 (3-0-6)*Prerequisite: 1202113 and 1202112*

Application of economic principles and analysis to health sector concerning health problems; health care finance, establishment of security in health care and health services; demand and supply of health care services; economic evaluation of health care and health care services; evaluation of health care finance; health care reform.

1202486 Economics of Inequality and Poverty 3 (3-0-6)*Prerequisite: 1202113 and 1202112*

Economic systems in the context of inequality among different groups in society; development of various theories on this topic; different dimensions of inequality such as economic, social and political inequality and their relationship; construction of inequality and poverty indices; ideology behind the construction of different indices; articles and research on inequality and poverty especially in developing countries; analysis of the impacts of various policies on income distribution.

1202487 Economics of Energy 3 (3-0-6)*Prerequisite: 1202381 or 1202397*

Relationship between energy and economy; energy balance accounting; econometric analysis of demand and supply for different types of energy; analysis of national energy policy and measures.

1202488 Economics Evaluation Techniques for Environmental Impacts 3 (3-0-6)*Prerequisite: 1202381 or 1202397*

Methods for evaluation of environmental impacts; theories of economic evaluation of the environment; methods for economic evaluation of environmental impacts; application of economic values of environmental impacts in project appraisal.

1202489 Public Economics Policy 3 (3-0-6)*Prerequisite: 1202252*

The application of public economics in determining the role of public sector and impacts of public policies; market supervision, tax policy, public expenditure policy, public debt and debt management and public enterprise policy.

1202490 Economics Development 3 (3-0-6)*Prerequisite: 1202113 and 1202112*

Principles and concepts of economic development; basic characteristics, structures and problems of developing countries; concepts and theories of economic development; economic and other factors influencing development; agricultural and rural development; industrial development; technological change; population; education and health, saving; investment; international trade, investment, and debt; problems and alternatives of economic development.

1202491 Co-operative Education 9 (0-40-18)*Prerequisite: None*

Student could be preparing to work as a training worker or a temporary employee at the provided training organizations; included Government and Non-Government Organization, one semester according to student's major subject. After finish, students have to send and present academic report to the major's teachers. The evaluation criterias are based on the evaluation results from the advisor of Co-operative Education, the officer at the organization and student's academic report.

1202492 Overseas Training 9 (0-40-18)*Prerequisite: None*

Overseas training in organizations under university's supervision and evaluation.

- 1202493 Research Project in Economics** **9 (0-40-18)**
Prerequisite: None
 Undergraduate research on current issues of Economics under guidance of supervisor; practical works on scientific process; report writing and oral presentation.
- 1202494 Corporate Finance for Economics** **3 (3-0-6)**
Prerequisite: None
 Analysis of corporate finance; profit planning; management of flow of funds, cash flow liabilities; debtor management; sources of short-term and long-term funds.
- 1202496 Special Topic in Economics** **3 (3-0-6)**
Prerequisite: 1202213 and 1202214
 Undergraduated research project in economic areas under supervision.
- 1202497 Seminar** **3 (3-0-6)**
Prerequisite: 1202213 and 1202214
 Seminar on theories, practices and application of current economic issues.
- 1202498 Independent Study** **3 (0-9-3)**
Prerequisite: 1202213 and 1202214
 Undergraduated research project in economic areas under supervision.
- 1203103 Statistics and Research Method for Business** **3 (3-0-6)**
Prerequisite: None
 Role of statistics in research; data collection and presentation; statistical distribution, sampling methods; statistical methods for analysis of variance; chi-square test; regression and correlation estimation.
- 1203121 Principles of Marketing** **3 (3-0-6)**
Prerequisite: None
 Meaning and concept of marketing; importance of marketing in business and economics; marketing mixed; consumer behavior; segmentation and targeting; marketing research.
- 1203131 Principles of Business Administration** **2 (2-0-4)**
Prerequisite: None
 Types and Characteristics of Business; Business Functions; Management Roles and Functions.
- 1203132 Principles of Business Management** **3 (3-0-6)**
Prerequisite: None
 Types and characteristics of business; business functions; management roles and functions principle of business management such as financial management, operations management, marketing, accounting, human resources, planning and controlling, organizational development, management functions and organizational change.
- 1203133 Business Management** **3 (3-0-6)**
Prerequisite: None
 Types and characteristics of business; business functions; management roles and functions principle of business management such as financial management, operations management, marketing, accounting, human resources, planning and controlling, organizational development, management functions and organizational change.
- 1203141 Organization and Management** **2 (2-0-4)**
Prerequisite: None
 Meaning, importance and elements of organization; types and structures of organization management; modern management concept and techniques.
- 1203201 Taxation** **3 (3-0-6)**
Prerequisite: 1201113 or (1203101 and 1201112)
 Taxation principle; tax system relation to personal income, juristic persons, excise and custom; electronic data interchange.

- 1203211 Principles of Business and Finance** **3 (3-0-6)**
Prerequisite: None
 Structure of financial system; financial control mechanisms; monetary and financial theories; interest rate structure; foreign currency exchanges; business modeling and simulation.
- 1203212 Business Finance** **3 (3-0-6)**
Prerequisite: 1201114 or 1201211
 Principles of financial management; time value of money; financial statement analysis; risk management; cost of capital; capital structure; asset valuation including; allocations of funds; profit share analysis and strategic financial planning.
- 1203242 Human Resource Management** **3 (3-0-6)**
Prerequisite: None
 Management of human resource, interaction between environment and functions of human resource management; problems and current issues.
- 1203243 Organizational Behavior** **3 (3-0-6)**
Prerequisite: 1203141
 Internal organization behavior; job design; job satisfaction; organization changes; effective management.
- 1203251 Operations Management** **3 (3-0-6)**
Prerequisite: None
 Function of operations; forecasting techniques; strategic production planning; location and layout; product design; operation planning and control; quality management.
- 1203252 Quantitative Analysis** **3 (3-0-6)**
Prerequisite: None
 Relationship between management science and decision making processes; methodology in quantitative analysis; mathematical models and application to business; problems and current issues.
- 1203253 Production and Operations Management** **3 (3-0-6)**
Prerequisite: 1203103
 Management of operation units in industry; strategy, forecasting, operation processes, inventory, quality assurance and control; production management under uncertainties.
- 1203301 Project Feasibility Study and Management** **3 (3-0-6)**
Prerequisite: None
 Project management processes and techniques; feasibility studies in economic, finance, marketing technology operation, social and physical environments; employment of digital control system; software development and prospects.
- 1203302 Project Feasibility Study and Evaluation** **3 (3-0-6)**
Prerequisite: 1203253 or 1203311 or 1203121
 Mathematical approach for project analysis in feasibility and return on investment; evaluation process; business case studies.
- 1203311 Financial Management** **3 (3-0-6)**
Prerequisite: 1203212
 Financial policies; financial management techniques and procedures under various situations; case studies of effective achievement in business.
- 1203312 Principles of Investment** **3 (3-0-6)**
Prerequisite: 1203212
 Decision making techniques in financial investment; factors determining price of security and rate of return; risk management.
- 1203313 Financial Planning and Control** **3 (3-0-6)**
Prerequisite: 1203311
 Strategy for solving financial problems, planning and implementation.

- 1203314 Financial Report Analysis 3 (3-0-6)**
Prerequisite: 1203212
 Techniques of financial analysis; effective use of accounting principles in preparation of financial report.
- 1203321 Marketing Management 3 (3-0-6)**
Prerequisite: 1203121
 Concept of marketing management; marketing strategies towards environments, management.
- 1203324 Retail Marketing 3 (3-0-6)**
Prerequisite: 1203121
 Changes influencing sustainability of retail marketing; opportunity and management; specific retail marketing techniques such as attractive displays, shelf management and sales promotions.
- 1203325 Agricultural Product Marketing 3 (3-0-6)**
Prerequisite: 1202112 and 1203121
 Characteristics and problems of major agricultural product of thailand; supportive institution and organization; role and policy of government; integrated marketing management of agricultural product; development and prospects.
- 1203326 Industrial Product Marketing 3 (3-0-6)**
Prerequisite: 1203121
 Characteristics and significance of industrial products; industrial supply chain management; integrated marketing management; development and prospects.
- 1203327 Marketing Communication 3 (3-0-6)**
Prerequisite: 1203321
 Coordination and integration of all marketing communication tools; avenues and sources within a company into a seamless program; maximizes the impact on consumers and other stakeholders at a minimal cost; the channels or external and internal communications.
- 1203328 Electronic Marketing 3 (3-0-6)**
Prerequisite: 1301383 and 1203321
 Impact of Internet Technology on marketing strategy and practice, opportunities and challenges created by Internet in marketing areas: advertising and promotion, customer service, pricing, retailing, electronic commerce, distribution channels, and customer relationship management.
- 1203329 Sale Management and Salesmanship 3 (2-2-5)**
Prerequisite: 1203321
 Utilize a relationship management approach, fundamentals of building and maintaining relationships; sustain these relationships in building the image; reputation and need-satisfying abilities through the sale forces.
- 1203331 Business Research 3 (3-0-6)**
Prerequisite: 1203103 and 1203141
 Identification of research topics, relevancy of research outputs to business strategic planning, management and development, research methodology.
- 1203332 Business Venture and Entrepreneurship 3 (3-0-6)**
Prerequisite: 1203141
 Concept and characteristics of entrepreneurs; types of business venture; new business planning and development.
- 1203333 Business Research 3 (3-0-6)**
Prerequisite: None
 Identification of Research Topics, Relevancy of Research Outputs to Business strategic Planning, Management and Development, Research Methodology.

1203342 Business Psychology 3 (3-0-6)*Prerequisite: None*

Diversity of individual behavior; working relationship; working attitude; development of personality; leadership and collective behavior.

1203343 Organization of Development 3 (3-0-6)*Prerequisite: 1203141*

The structures and dynamics system of organization as complex systems, theories and concepts of organizational development, management discipline aimed at improving organizational effectiveness and developing individual's potential in a changing world.

1203344 Managing Change 3 (3-0-6)*Prerequisite: 1203141*

Explores problems in introducing change in organizations, theory, and methods of intervention in organization development, provide focus for analyzing, designing, and implementing innovation and change strategy within a wide variety of organizations. To identify and understand the organizational strategies and organizational context that helps foster innovative ideas, products, and services, and appreciate the change management strategy required to bring these innovations to successful exploitation in the marketplace and society.

1203345 Dimension of Leadership 3 (3-0-6)*Prerequisite: 1203141*

Examine the leadership theory and concepts, develop leadership skill the ability to apply the theory through critical thinking, and to s; discuss various models of leadership applicable to business organization.

1203346 Group Dynamics 3 (3-0-6)*Prerequisite: 1203141*

Work team building and development techniques and each function in job process.

1203347 Work Motivation and Productivity 3 (3-0-6)*Prerequisite: 1203141*

Provide a background for understanding work motivation and, to a lesser extent, job satisfaction, knowledge of human motivation and compensation systems, the relation between motivational processes and personal and organizational outcomes. The effects of evaluation, compensation and reward systems on motivation will also be discussed.

1203351 Business Logistic Management 3 (3-0-6)*Prerequisite: 1203253*

Transportation; logistic planning and management; capability of suppliers; materials procurement; distribution and warehouse management; customer satisfaction factors; current problems and issues.

1203361 International Business Management 2 (2-0-4)*Prerequisite: 1203141*

International business environment; competitive ability; forms of international trade and services; promotion; investment and integration; current problems and issues.

1203362 International Business Management 3 (3-0-6)*Prerequisite: 1203141*

International trade theories; international business and environment; trade blocs and barriers; foreign investment and forms of international business; current problems and issues.

1203363 Cross-Culture Management 3 (3-0-6)*Prerequisite: 1203141*

Cross-cultural business strategies; influences of cultural, politics, social and economics on international business management; cultural diversities, negotiation and social harmonization; problems and prospects.

1203364 Business Negotiation**3 (3-0-6)***Prerequisite: None*

Planned objectivity, platform, agenda and bargaining issues; status, patterns and practices of business negotiation; positioning under uncertainty; case study.

1203365 International Trade**3 (3-0-6)***Prerequisite: None*

Theories of international trade; international trade organization and multilateral trade agreement; privileges and distortions; trade and development; global trends and impacts.

1203366 International Finance**3 (3-0-6)***Prerequisite: 1203212 and 1202113*

International finance management; characteristics and functions of foreign exchange markets; international financial systems and impacts on financial management; current issues and trends.

1203367 Export – Import Management**3 (3-0-6)***Prerequisite: 1203121 or 1203362*

Rules and regulations of export–import activities; customs procedure; products and markets identification; marketing, transportation, insurance and trade finance.

1203371 Business System Design**3 (3-0-6)***Prerequisite: 1201111*

Role of information technology on modern business management; analysis and design of business information systems; enterprise resource planning and management including transaction processing, management information and decision support system; software application; technology trend.

1203381 Introduction to Personal Financial Planning**3 (3-0-6)***Prerequisite: None*

Fundamental concepts of personal financial planning; financial planning process, the economic environment, time value of money applications, personal financial statements, cash flow and debt management, asset acquisition, education planning, personal risk management, investment planning, retirement planning, special circumstances, and plan integration.

1203382 Investment Planning**3 (3-0-6)***Prerequisite: None*

Investment planning in the personal financial planning process; analyzes the investment parameters of clients and addresses investment vehicles and recommendations prescribed to develop client investment portfolios; the analysis of client parameters includes the topics of assessing risk tolerance, time horizon, tax considerations, liquidity and marketability concerns, and diversification issues; investment vehicles addressed include stocks, bonds, mutual funds, insurance-based investments, futures, options, foreign investments, real estate, and tangible assets.

1203383 Income Tax Planning**3 (3-0-6)***Prerequisite: 1203201*

Concepts of the fundamentals of income taxation, tax computations and concepts, tax planning, and hazards and penalties; a financial planner's role in the tax planning process by covering the income tax return and identifying various financial planning exposures; planning for the acquisition and disposition of property, tax-advantaged investments, and tax planning for the family.

1203391 Professional Experience**3 (0-35-6)***Prerequisite: None*

Preparing students for future career, cooperative training organizations included government and non-government sectors under university's supervision and evaluation.

1203402 Personal Financial Planning 3 (3-0-6)

Prerequisite: (1203103 and 1202113 and 1202112) or (1202212 and 1201111) or 1201114

The fundamental concepts of personal financial planning; the financial planning process, the economic environment, time value of money applications, personal financial statements, cash flow and debt management, asset acquisition, education planning, personal risk management, investment planning, retirement planning, special circumstances, and plan integration.

1203403 Project in Business Administration 3 (1-4-4)

Prerequisite: None

Student could be doing the business research as a trainee researcher or assistant researcher in any selected business field; integrate and develop a conceptual business tool techniques; research methodology ; prepare the essential functions of business, one semester according to student's major subject, under university's supervision or project advisor and evaluation.

1203404 Innovation and Technology Management 3 (3-0-6)

Prerequisite: None

Concept of Innovation and Technology system based on knowledge management; Innovation process and Technology strategy, Innovative organization and entrepreneurship.

1203411 Securities Analysis 3 (3-0-6)

Prerequisite: 1203312

Roles and importance of security analysis; macro-economics analysis in relation to security; characteristics and types of financial derivatives, future development.

1203412 Investment Banking 3 (3-0-6)

Prerequisite: 1203311

Principles and techniques of investment banking; value and wealth establishment; portfolio management; merger and acquisition; problems and issues.

1203421 Marketing Research 3 (2-2-5)

Prerequisite: 1203331 or 1203333 and 1203121

Roles and importance of marketing research towards marketing management; research methodology; application of research findings; marketing research ethics; field practices.

1203422 Strategic Brand Management 3 (3-0-6)

Prerequisite: 1203321

Development and implementation of brand strategies, role models and challenges; create a comprehensive brand architecture; generate motivating brand identities and value propositions for the key brands; develop brand-building programs; and organize to manage brands effectively.

1203431 Business Policy 3 (3-0-6)

Prerequisite: None

Relationship between business organization and environments; organization analysis; business ethics; policies for business responsibility of stake - holders, society and environment; case study.

1203432 Strategic Management 3 (3-0-6)

Prerequisite: 1203141

Concept and process of strategic management; decision making on strategic alternatives; effective management of organization; case study.

1203461 International Marketing 3 (3-0-6)

Prerequisite: 1203121

Principles and concept of international marketing; importance of national economy; global marketing concept; international marketing strategies; problems and issues.

1203462 Business Management in Asian Countries 3 (3-0-6)

Prerequisite: 1203362

Concepts and business management processes; analysis of internal and external business environment factors for national economy; strategic management in Asian countries.

- 1203463 Special Topic in International Business 3 (3-0-6)**
Prerequisite: 1203362
 Analysis of special topics in international business; issues associated with doing international business.
- 1203464 International Business Marketing 3 (3-0-6)**
Prerequisite: 1203121
 Principles and concepts of international business marketing process; international marketing opportunities; global marketing concepts; international marketing strategies; problems and threats of doing international business.
- 1203481 Insurance Planning and Risk Management 3 (3-0-6)**
Prerequisite: None
 Fundamental of risk management and insurance decisions in personal financial planning: an important element of individual and corporate financial plans. Insurance for life, health, homeowners, automobile, social, other property liability, and individual employee benefits will be discussed in detail.
- 1203482 Employee Benefits, Retirement and Estate Planning 3 (3-0-6)**
Prerequisite: None
 Knowledge of benefit; contribution plans, regulatory provisions of public and private retirement plans; government social security plans. Non-qualified deferred compensation plans. Individuals face in retirement; life-style choices and medical issues. Estate planning concept.
- 1203491 Co-operative Education 9 (0-40-18)**
Prerequisite: None
 Student could be preparing to work as a training worker or a temporary employee at the provided training organizations; included Government and Non-Government Organization, one semester according to student's major subject. After finish, students have to send and present academic report to the major's teachers. The evaluation criterias are based on the evaluation results from the advisor of Co-operative Education, the officer at the organization and student's academic report.
- 1203492 Overseas Training 9 (0-40-18)**
Prerequisite: None
 Overseas training in organizations under university's supervision and evaluation.
- 1203493 Research Project in Business Administration 9 (0-40-18)**
Prerequisite: None
 Undergraduate research on current issues of Business Administration under guidance of supervisor; practical works on scientific process; report writing and oral presentation.
- 1203497 Seminar on Business Administration 3 (3-0-6)**
Prerequisite: None
 Seminars on theories, practices and application of current business issues.
- 1205112 Introduction to Tourism 3 (3-0-6)**
Prerequisite: None
 Fundamental understanding of tourism industry including its scope, history and evolution of tourism industry on an international basis and Thailand, various segments in tourism industry, the relationship between tourism and economy, socio-culture and environment as well as trends of tourism development.
- 1205202 Tourism Laws 2 (2-0-4)**
Prerequisite: 1601101
 Origin, importance and issues in tourism business and tourist guide act-1992; laws related to tourism; universal laws in tourism.

1205204 Sustainable Tourism**3 (3-0-6)***Prerequisite: None*

Concept, important and history of sustainable tourism; the principle of sustainable tourism, component, supporting for sustainable tourism; human and culture, public and private roles; the relationship with hospitality industry.

1205205 Tourism Geography**3 (2-2-5)***Prerequisite: None*

Overview of the world geography and geography of Thailand; the importance of geography to tourism; influences and significance of geography on economy, socio-culture and values of the locals for tourism resource selection; directions and threats in traveling; the map reading and the usage of G.I.S.; roles of private and public tourism agencies; the relationship and communication between local people and tourism authority organizations.

1205211 Tourism Business Management**3 (3-0-6)***Prerequisite: None*

Roles and importance of tour operator; types of tours; tour program planning; coordination with other tourism service suppliers; tourism business ethics

1205301 Ethics and Psychology for Service Industry**3 (3-0-6)***Prerequisite: None*

Knowledge and understanding of types and objectives of service provided; basic and psychology for service providers; attitude and personality development; problem alleviation; impacts of service failure.

1205302 Traditional Arts and Cultures**3 (2-2-5)***Prerequisite: None*

Evolution of Thai arts and culture, relationship between geography and socio-culture of different destinations. Diversity of Thai culture based on study of local festivals, traditional dances, folklores, find arts, sculpture and architecture.

1205303 Thai Arts and Culture**3 (2-2-5)***Prerequisite: None*

The study of the evolution of thai arts and culture, relationship between geography and socio-culture of different destinations. Diversity of Thai culture based on study of local festivals, traditional dances, folklores, find arts, sculpture and architecture.

1205311 Ecotourism**3 (2-2-5)***Prerequisite: 1103140*

Concepts, importance and types of ecotourism; factors determining ecotourism; principles of sustainable ecotourism management; laws imposed; ecotourism analysis; roles of public and private sectors on promotion.

1205312 Tourism Planning and Marketing Development**3 (3-0-6)***Prerequisite: 1203121*

Introduction to tourism planning and marketing; market and product identification; factors affecting growth; marketing research and trend analysis; strategic planning for market development.

1205313 Conservation and Development of Tourist Attractions**3 (3-0-6)***Prerequisite: 1103140*

Impacts of tourism on environment and socio-culture; tourism resources preservation and development; tourism carrying capacity; cooperation of public and private sectors in managing resources and environment for sustainable tourism; micro-macro level environmental assessments.

1205314 Tourism Planning and Development**3 (3-0-6)***Prerequisite: None*

The study of the basic theory on sustainable tourism. Roles of government and non-government agencies in aspects of psychology, sociology and geography as well as an interrelationship for effective planning and development on locals and national/international markets. Additionally, topics of ecology and environmental impacts, tourism master plans and global forces that influence on domestic and international tourism will be explored.

1205321 Introduction to Hotel Management**3 (2-2-5)***Prerequisite: None*

Hotel organization structure; management and operations; hotel chain management; laws relating to hotel business; role and importance of hotel business on economic and society.

1205322 Food and Beverage Management**3 (2-2-5)***Prerequisite: None*

Structure and functions of food and beverage department; menu engineering; international gastronomy; restaurant design; types of beverage; banquet and catering.

1205331 Tour Guide**3 (2-2-5)***Prerequisite: None*

Principles of tour guides; ethics; tourism behaviors; information and recommendation of tourist attractions in Thailand.

1205332 MICE Management**3 (2-2-5)***Prerequisite: None*

Definitions and importance of MICE; Meetings, Incentives, Conventions and Exhibitions; facilities needed for MICE industry; marketing, budget and operation plans for various types; collaboration with related agencies.

1205333 Airlines and Cruiselines Business Management**3 (2-2-5)***Prerequisite: None*

Evolution and components of airline and cruiseline business; domestic and international route planning services and fares; reservation and ticketing; international and domestic laws, regulations business codes; immigration and customs procedures; cargo; trends and future prospective.

1205334 Airlines Business Management**3 (2-2-5)***Prerequisite: None*

Airlines business management evolution and components of airline business; domestic and international route planning services and fares; reservation and ticketing; international and domestic laws, regulations business codes; cargo; trends.

1205335 Cruise Lines Business Management**3 (2-2-5)***Prerequisite: None*

Evolution and components of cruise line business; laws, regulations business codes; immigration and customs procedures; cargo; trends.

1205336 Principles of Tour Guide**3 (2-2-5)***Prerequisite: None*

Fundamentals knowledge of tourist guide profession: ethics, principles and roles of tour guide, behavior of tourists and tourist attractions in Thailand. Learning experiences on field trip and guiding in practice.

1205337 Fundamentals of Passenger Transportation**3 (2-2-5)***Prerequisite: None*

The study of the significance and impacts of transportation on tourism industry; types and components of passenger transportation, land, water and air transportations; analysis of competitive market conditions, marketing, problems, insurance, rules and regulation related to passenger transportation business as well as its tendency.

1205341 Destination Management**3 (2-2-5)***Prerequisite: None*

Understanding of tourism resources management in different parts of the world including GMS areas. Visitor management for sustainable tourism development in Thailand.

1205342 Souvenir Business Management**3 (3-0-6)***Prerequisite: None*

Fundamental knowledge of souvenir business management including its definition, characteristics, types and development of souvenir. Relationship between souvenir and tourism business both in macro and micro levels, marketing, and related issues for the career application.

1205343 Fundamentals of Special Events and Recreation Management 3 (2-2-5)*Prerequisite: None*

Fundamental knowledge of recreation management including theories, concepts, practices and provisions related to management aspects. Review of the recreation's historical development in Thailand, the history of community recreation, sports management, parks, tourism and outdoor activities leadership.

1205344 Special Interest Tourism Management 3 (2-2-5)*Prerequisite: None*

Management of special interest group of tourist including the fundamental understanding of its definition, principles, management and significance of niche market such as cultural interest tourists, vine and food-interest tourists, health and spa interest tourists and the tourism for the elderly tourists.

1205392 Professional Experience in Tourism Management 3 (0-9-3)*Prerequisite: None*

The on-the-job training as a model tour operator, in particular, managing various kinds of tourism business products as a whole and preparing a report.

1205411 Tourism Industry and State Policy 3 (3-0-6)*Prerequisite: None*

Evolution, importance and impact of tourism industry on society, economy, politics, environment and culture; future development trends; international and national travel promotion organization; national policies and strategic plans toward tourism industry development.

1205482 Seminar on Tourism Management 1 (0-2-1)*Prerequisite: None*

Analysis on contemporary issues or case studies of tourism industry, particularly in Thailand. Group discussion and lecture from expertise.

1205495 Co-operative Education 6 (0-40-12)*Prerequisite: None*

Student could be preparing to work as a training worker or a temporary employee at the provided training organizations; included government and non-government organization, one semester according to student's major subject. After finish, students have to send and present academic report to the major's teachers. The evaluation criterias are based on the evaluation results from the advisor of co-operative education, the officer at the organization and student's academic report.

1207101 Introduction to Hospitality Industry 3 (3-0-6)*Prerequisite: None*

Introduction to hospitality industry; the introduction of hospitality industry and its component, the scope of the industry, the relationship between the tourism and hospitality industry, the history and development of the industry, ethical issues, career opportunity.

1207201 Tourism and Hospitality Industry Marketing 3 (3-0-6)*Prerequisite: None*

Hospitality and tourism marketing; principles of marketing; services characteristics; marketing for hospitality and tourism; market and product identification; factors affecting growth; marketing research and trend analysis; strategic planning for market development.

1207202 Property Development and Planning 3 (3-0-6)*Prerequisite: None*

Property management and planning project analysis in feasibility and return on-investment; evaluation process; business case studies.

1207204 Service Operations Management 3 (3-0-6)*Prerequisite: None*

Service operations management; function of operations; forecasting techniques; strategic production planning; location and layout; product design; operation planning and control; quality management for service industry.

- 1207205 International Tourism and Hospitality Business Management 3 (3-0-6)**
Prerequisite: None
 The tourism and hospitality industry in the global context with specific emphasis on the strategic implications of operating in culture differentiation, laws, economic, and social. Current issues such as government policy and restrictions in investment, trade agreements and cultural pressures will be discussed. Logistics, Management of Multinational Corporation, Franchise Agreement and Management Contract.
- 1207211 Hotel and Lodging Management 3 (2-2-5)**
Prerequisite: None
 Hotel organization structure; management and operations; hotel chain management; laws relating to hotel business; role and importance of hotel business on economic and society.
- 1207212 Housekeeping Management 3 (2-2-5)**
Prerequisite: None
 Housekeeping organizational structure, function of the housekeeping department staff, cleaning, work schedule, basic room facilities and equipment used, and laundry.
- 1207213 Front Office Management 3 (2-2-5)**
Prerequisite: None
 The accommodation's organizational structure, management of the front office department, work related, staff of the front office department, procedure, check-in and check-out, cashier, the reservation system, and night audit.
- 1207214 Resort, Timeshare and Leisure Management 3 (3-0-6)**
Prerequisite: None
 The definition, structure, management of resorts and timeshares, characteristic of resorts and timeshares; the relationship among resorts, timeshares, leisure, travel, and related activities.
- 1207215 Facilities Management 3 (3-0-6)**
Prerequisite: None
 Fundamentals of building mechanical systems, maintenance and facilities management; facilities management related to the safety and security of employees and guests.
- 1207221 Food Nutrition and Hygiene 3 (2-2-5)**
Prerequisite: None
 The principles of food safety, nutrition and hygiene as well as beverage; safety food preparation, equipment and kitchenware used, quality control.
- 1207391 Professional Experience in Hospitality Industry Management 3 (0-9-3)**
Prerequisite: None
 The On-the-Job Training as a model company of Hospitality Industry particular, management the Hospitality Industry business in various styles and preparing a report.
- 1207401 Revenue Management 3 (3-0-6)**
Prerequisite: None
 Study about characteristic of hospitality industry and revenue management and its principles; study the method called yield management.
- 1207421 Management of Restaurant Design and Application 3 (3-0-6)**
Prerequisite: None
 Restaurant designed, type of restaurant, interior design, space management for food service, working system, management in the kitchen, decoration to attract customers.
- 1207422 Gastronomic Restaurant Experience 3 (2-2-5)**
Prerequisite: None
 Gastronomic culture. The table manner, different styles of table manner, the table manner and culture; international food and food service such as Thai, Chinese, Japanese and Europe.

1207423 Kitchen Management 3 (2-2-5)*Prerequisite: None*

The management of kitchen, space layout and kitchen facility setup, menu engineering, organizing, staffing, purchasing, costing, preparation and food service.

1207424 Food Preparation and Culinary Skills 3 (2-2-5)*Prerequisite: None*

Study of characteristics and how to cook (food operation) many type of cuisine; main course, dessert and beverage, menu engineering, know raw material and equipment used.

1207481 Seminar in Hospitality Industry Management 1 (0-2-1)*Prerequisite: None*

Analysis on contemporary of Hospitality Industry and Tourism in Thailand and/or world situation, case study for the impact analysis on Economic, Social, Political, Natureal Disaster and the consolidation of the Hospitality Industry.

1207495 Co-operative Education 6 (0-40-12)*Prerequisite: None*

Student could be preparing to work as a training worker or a temporary employee at the provided training organizations; included government and non-government organization, one semester according to student's major subject. After finish, students have to send and present academic report to the major's teachers. The evaluation criterias are based on the evaluation results from the advisor of co-operative education, the officer at the organization and student's academic report.

1210101 Personality Development 3 (3-0-6)*Prerequisite: None*

The theories, concepts and definition of the word "Personality in Service Business"; study the fundamental knowledge of physical and mental ability in order to nurture and develop them inseparably; methods and techniques of personality development including personality adjustment, apparel selection, self-conforming and social etiquette required by the services job.

1210102 Introduction to Aviation Business Management 3 (3-0-6)*Prerequisite: None*

An overview of aviation business; history, current scale and scope of aviation business; about the multiple operational and business functions of airlines; the duties and responsibilities of key airline personnel; aircraft insurance procedures and risk management, as well as airline responsibility on passengers.

1210103 Introduction to Aviation English 3 (2-2-4)*Prerequisite: None*

Introduction to basic aviation English usage; utilizing of technical in aviation business management; practicing in aviation communication; leverage ability to identify important geographical aspects; familiarize with standard service language usage.

1210201 Aviation Business Information System 3 (3-0-6)*Prerequisite: None*

Study on the information technology systems in aviation business: ticketing, reservation, check-in and boarding, inter-station communication, the communication systems between operational-personnel on board, as well as with personnel in the on-ground functions concerned. All technical and job-related vocabulary together with the glossary of innovations concerned will be focused and practiced.

1210202 Psychology for Service Industry 3 (3-0-6)*Prerequisite: None*

A study of psychological concepts and theories related to the services industry; the principles of interpersonal skills; factors affecting services industry; adaptation of the psychological principles for the most effective services improvement.

1210203 Marketing for Aviation Business 3 (3-0-6)*Prerequisite: None*

An overview of marketing principles related to the aviation business, focusing on the application of marketing mixes and the use of various marketing strategies as well as promotional activities to achieve success in the industry.

- 1210301 Impressive Presentation and Effective Negotiation 3 (2-2-5)**
Prerequisite: None
 An intensive study, theoretical and practical, on speech making, speaking and listening skills; making verbal presentation with appropriate word selection, conciseness, relevancy and also types of public speaking are included. The formation of ideal personality and confidence of the speaker in order to succeed in convincing and negotiating in win-win situation.
- 1210302 In-flight Service Management 3 (3-0-6)**
Prerequisite: None
 In-flight services managing system, procedures for pleasant and comfortable flight with high standard of safety; strengthen knowledge and experiences for professional services; proper passenger contact, in-flight duties, crew managing for each aircraft type and route, in-flight equipment operation and internship with alliance airlines.
- 1210303 In-flight Technical Equipment Use 2 (2-0-4)**
Prerequisite: None
 Familiarizing with equipments and devices on board installed for in-flight services, e.g. safety and security, entertainment, convenience and comfort; the general and basic operational techniques and procedures as fundamental knowledge; practices on stimulated environment or work situation.
- 1210304 Social Etiquette and Service Attitude 3 (3-0-6)**
Prerequisite: None
 The approached to develop social behavior, skills and etiquette generally practiced in both national and international societies. The knowledge of factors affecting body language, verbal language as well as individual personal conduct, i.e.; norms, traits, values, traditions, beliefs and cultures of the society. The uniqueness of the Thai culture is focused to develop differences in personality ad manners: modesty and harmony in interaction between the message senders and receptors, the appropriate physical and verbal expressions required in services business. The services attitude to be developed with the appropriate applicability of the internal quality and external appearance.
- 1210305 Aviation Business Health and Hygiene 3 (3-0-6)**
Prerequisite: None
 Healthy life and life hygiene by maintaining optimal health condition and balance between body and mind with appropriate nutrition and exercise; as beneficial for health and well being of all on ground and board including passengers.
- 1210306 Introduction to Air Cargo Services 3 (3-0-6)**
Prerequisite: None
 Fundamental knowledge of air cargo; law and limitations for transporting, labeling and packaging especially for hazardous goods; import and export, customs clearance and ICAO – International Civil Aviation Organization rules and regulations for air cargo.
- 1210307 Laws and Regulations in Aviation Industry 3 (3-0-6)**
Prerequisite: None
 The studying of law, rules, regulations, measures concerning all aviation business issued by local and international aviation organizations. The knowledge of international aviation firms, that is: IATA-International Aviation Transportation Agency, ICAO-International Civil Aviation Organization, FAA-Federal Aviation Agency, DOA-Department of Aviation etc. including their functions and responsibilities. The information on services, immigration policies and procedures of each country; applying case studies.
- 1210309 Aperitif and Beverages Knowledge 3 (3-0-6)**
Prerequisite: None
 Study of variety of all aperitif and beverages served for customers in services business including history, background, and knowledge concerned. The influential factors stened from cultures, traditions, beliefs and values on the consumption. The appropriate preservation, the container selection as well as the selection of specific variety of beverages served with different types of meal, courses and also in different occasions. The glossary of names, definitions and related vocabulary are also included; and field trip.

1210310 Aviation and Related Industries**3 (3-0-6)***Prerequisite: None*

A study of fundamental knowledge of aviation industry; the importance, history, evolution, nature and major factors of aviation business; the information of concerned organizations and related functions both local and international; the airports design, management, functions and responsibilities, air traffic control, rules and regulations issued by international and external aviation bodies, which are DOA – Department of Aviation and ICAO - International Civil Aviation Organization; the details on other related activities e.g. transportation, cargo, aircraft manufacturers, the advancement of aviation business and industry.

1210311 Group Discussion and Interview Techniques**3 (3-0-6)***Prerequisite: None*

Activities involve group discussion on case studies of the current issues including news, innovation, and technology as well as the presence and the future of aviation business, interviewing techniques to develop confidence in oral tests; increasing the chance to be selected as the airlines' employee.

1210312 Thai Charisma**3 (3-0-6)***Prerequisite: None*

Environmental factors affecting the individual's traits: genes, educational level, rearing, occupation and attitudes -the way to development of personality and behavior to meet requirements and standard of services industry. Theories and practices to enhance appearance and grooming, to develop interpersonal and communication as well as to promote positive thinking.

1210313 Customer Satisfaction Survey**3 (3-0-6)***Prerequisite: None*

Research methodologies involve surveys, interviews or even observation in order to gather reliable data on the customer's preferences and feedbacks. The facts found are to be analyzed for improving customer services policy and planning.

1210401 Airline Catering Management**3 (3-0-6)***Prerequisite: None*

Knowledge of airline catering system for in-flight services focusing on all food and beverages procedures; buying, quality screening and quality control, food preparation, menu creating and consideration, food sampling and testing, meal presentation, nutrition and hygiene control, meal reservation for specific cases, and catering delivery; altogether with field trips at airline in-flight catering department of alliance airlines.

1210402 Passenger Ground Services**3 (3-0-6)***Prerequisite: None*

Step by step of airline ground services procedures and airport rules and regularities; duty description of each responsible position; customer services, check-in system, seat and luggage arrangement concerning weight and balance control, embarkation and disembarkation, including security screening for pre-flight and post-flight; airport field trip provided.

1210403 Aviation Business Safety and Security**3 (3-0-6)***Prerequisite: None*

The examination and study of all aspects of incidents and accidents in aviation industry both on-air and on-ground; local and international rules and regulations concerning safety and security as well as measures and precautions to protect and prevent damage and dangers to aviation personnel and properties are focused.

1210404 Professional Experience in Aviation Business**3 (3-0-6)***Prerequisite: None*

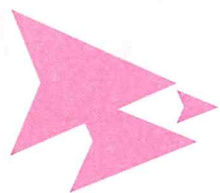
The seminar in aviation trends emphasizes on discussion on contemporary issues confronting aviation personnels. Handling unexpected situations or difficulties effectively.

1210405 Co-operative Education**9 (0-40-18)***Prerequisite: None*

Student could be prepared for work as a training worker or a temporary employee in the selected training organizations; included Government and Non-Government Organizations, one semester according to student's major subject. After finish, students have to send and present academic report to the major's teachers. The evaluation criteria are based on the evaluation results from the advisor of Co-operative Education, the officer at the organization and student's academic report.

1210406 Overseas Training**9 (0-40-18)***Prerequisite: None*

Overseas training in organizations under university's supervision and evaluation.



School of Law

► Laws

School of Law

Mae Fah Luang University

The School of Law was established to support the needs for legal education in our country, and intends to produce quality graduates with theoretical knowledge and skills in applying it to their future occupations. Moreover, our students will be taught to abide by professional ethics, justice, and morality and to always maintain a sense of social responsibility. The School of Law offers courses designed by qualified lawyers and encourages academic activities on a regular basis in order to develop and expand the students' knowledge.

Apart from our academic mission, the School has other primary missions, such as research, academic services, and art and cultural preservations for which we conduct many activities, and legal services for society, community, local government and private organizations. In addition, the School conducts local research programs to create new knowledge and transfer it to the local community.

The School of Law currently offers one bachelor's degree program—Bachelor of Laws (LL.B.). This program primarily aims to develop graduates to be proficient in laws and have knowledge, morality, and social responsibility to pursue occupations in legal fields. To fulfil such aims, the School offers instruction by a faculty of qualified teachers and professors of law through a nationally recognized program and supplementary academic activities for the students.



Bachelor of Laws Program LL.B.

Total Credit

1. General Education Courses
2. Specific Requirement Courses
 - 2.1 Core Courses
 - 2.2 Major Elective Courses
3. Free Elective Courses

143 Credits

31 Credits

106 Credits

92 Credits

14 Credits

6 Credits

1. General Education Courses

31 Credits

Cr(Le-Pr-SS)*

1001101	Man and Society	2 (2-0-4)
1001103	Thai Language Skills	2 (2-0-4)
1001112	Logical Thinking	2 (1-2-3)
1001121	Recreation and Sport for Well-Being	1 (0-2-1)
1001132	Politics and Government	3 (3-0-6)
1001141	General Psychology	3 (3-0-6)
1006217	English for Communication	3 (2-2-5)
1006218	Academic Reading and Writing	3 (2-2-5)
1006301	College Writing	2 (2-0-4)
1006302	Academic Oral Skills	2 (2-0-4)
1006303	English for Professional Purposes	1 (0-2-1)
1006304	English for Professional Success	1 (0-2-1)
1202114	Introduction to Economics	3 (3-0-6)
1301104	Introduction to Information Technology	3 (2-2-5)

2. Specific Requirement Courses

106 Credits

2.1 Core Courses

92 Credits

Cr(Le-Pr-SS)*

1601100	Foundation of Legal Principles	4 (4-0-8)
1601102	Law of Juristic Acts and Contracts	4 (4-0-8)
1601203	Property Law	3 (3-0-6)
1601204	Law of Obligations	4 (4-0-8)
1601205	Law of Delicts	3 (3-0-6)
1601301	Family Law	3 (3-0-6)
1601302	Law of Succession	3 (3-0-6)
1601405	English for Lawyers 1	2 (2-0-4)
1601407	Legal Philosophy	2 (2-0-4)
1601411	Legal Profession	2 (2-0-4)
1601412	Labor Law 1	2 (2-0-4)
1602208	Law of Insurance	2 (2-0-4)
1602209	Law of Suretyships and Mortgage	2 (2-0-4)
1602210	Specific Contracts 1	3 (3-0-6)
1602211	Specific Contracts 2	3 (3-0-6)
1602308	Bankruptcy Law	3 (3-0-6)
1602313	Law of Partnerships and Companies	3 (3-0-6)
1602314	Law of Intellectual Property	3 (3-0-6)
1602315	Law of Negotiable Instruments	3 (3-0-6)
1602402	Taxation Law	3 (3-0-6)
1602417	Principles of Contract Drafting	2 (2-0-4)
1603101	Criminal Law 1 : General Principles	3 (3-0-6)
1603202	Criminal Law 2 : Offenses	4 (4-0-8)
1603301	Judicial System and Constitution of Courts of Justice	2 (2-0-4)
1603302	Law of Civil Procedure 1	3 (3-0-6)
1603303	Law of Civil Procedure 2	3 (3-0-6)
1603304	Criminal Procedure Law	3 (3-0-6)
1603305	Law of Evidence	3 (3-0-6)
1604101	Constitutional Law	3 (3-0-6)

1604202	Administrative Law	3 (3-0-6)
1605401	Public International Law	3 (3-0-6)
1605402	Private International Law	3 (3-0-6)

2.2 Major Elective Courses

14 Credits

Select from the following		Cr(Le-Pr-SS)*
1601202	Legal Interpretation and Legal Reasoning	2 (2-0-4)
1601206	Land Law	2 (2-0-4)
1601401	Seminar on Civil and Commercial Law	2 (1-2-3)
1601402	Thai Legal History	2 (2-0-4)
1601404	Accounting for Lawyers	2 (2-0-4)
1601406	English for Lawyers 2	2 (2-0-4)
1601408	Introduction to Comparative Law	2 (2-0-4)
1601409	Principles of Islamic Law and Use of Islamic Law in Thailand	2 (2-0-4)
1601413	Labor Law 2	2 (2-0-4)
1601414	Social Welfare Law	2 (2-0-4)
1601415	Foreign Legal System	2 (2-0-4)
1602201	Electronic Transactions Law	2 (2-0-4)
1602212	Specific Contracts 3	2 (2-0-4)
1602403	Customs Law	2 (2-0-4)
1602404	Banking and Financial Institutions Law	2 (2-0-4)
1602405	Consumer Protection Law and Procedure	2 (2-0-4)
1602406	Investment Law	2 (2-0-4)
1602407	Industrial Law	2 (2-0-4)
1602408	Seminar on Taxation Law	2 (1-2-3)
1602409	Law on Marketing	2 (2-0-4)
1602415	Law of Securities Exchange	2 (2-0-4)
1602416	Settlement of Commercial Disputes and Arbitration	2 (2-0-4)
1602418	Real Estate Business Law	2 (2-0-4)
1602419	Competition Law	2 (2-0-4)
1602423	Seminar on Business Law	2 (1-3-3)
1603308	Forensic Medicine	2 (2-0-4)
1603309	Criminal Investigation	2 (2-0-4)
1603310	Juvenile and Family Justice	2 (2-0-4)
1603401	Seminar on Civil Procedure Law	2 (1-2-3)
1603402	Seminar on Criminal Procedure Law	2 (1-2-3)
1603404	Criminology and Penology	2 (2-0-4)
1603405	Business Crime	2 (2-0-4)
1603406	Seminar on Criminal Law	2 (1-2-3)
1603407	Counseling and Advocacy	2 (2-0-4)
1604301	Mass Communication Law	2 (2-0-4)
1604302	Constitutional Court and Procedure	2 (2-0-4)
1604303	Introduction to Public Economic Law	2 (2-0-4)
1604304	Local Administrative Law	2 (2-0-4)
1604305	Law on Inspection of Exercise of State Power	2 (2-0-4)
1604401	Seminar on Public Law	2 (1-2-3)
1604402	Electoral and Political Party Law	2 (2-0-4)
1604403	Administrative Court and Procedure	2 (2-0-4)
1604405	State Contracts	2 (2-0-4)
1604406	Public Information Access and Rights of Privacy Law	2 (2-0-4)
1604408	Public Finance Law	2 (2-0-4)
1604415	Environmental Law	2 (2-0-4)
1604416	Military Law and Laws on National Security	2 (2-0-4)
1604418	Parliament Law	2 (2-0-4)
1604419	Administrative Procedure Law	2 (2-0-4)
1605403	International Economic Law	2 (2-0-4)
1605404	International Trade Law	2 (2-0-4)
1605405	International Organization Law	2 (2-0-4)
1605406	European Union Law	2 (2-0-4)
1605407	ASEAN Law	2 (2-0-4)

1605408	Law of the Sea	2 (2-0-4)
1605409	Maritime Law	2 (2-0-4)
1605410	Air Law	2 (2-0-4)
1605411	Human Rights Law	2 (2-0-4)
1605412	International Criminal Law	2 (2-0-4)
1605414	International Humanitarian Law	2 (2-0-4)
1605415	International Environmental Law	2 (2-0-4)
1605416	Law of Treaties	2 (2-0-4)
1605417	Seminar on International Law	2 (1-3-3)

3. Free Elective Courses not less than

6 Credits

xxxxxxx	Free Elective	3 (3-0-6)
xxxxxxx	Free Elective	3 (3-0-6)

At least six credits of free electives can be chosen from any course offered by Mae Fah Luang University.

1604202	Administrative Law	3 (3-0-6)
* Cr : Credit		
Le : Lecture		
Pr : Practice		
SS : Self Study		

Descriptions::

School of Law

1600101 Business Laws

3 (3-0-6)

Prerequisite: None

Books of business laws covering, general principles; obligations, specific contracts, other laws including insurance, labour, intellectual property, public and bills.

1600102 International Business Laws

3 (3-0-6)

Prerequisite: None

International business laws in relation to processing, trading agreements, agencies and representatives, insurance, trade documentation, payment of bills and investment contact, trade disputes settlements.

1600103 Laws for Tourism Industry

2 (2-0-4)

Prerequisite: None

Origin, importance and issues in Tourism business and tourist guide act-1992; laws related to tourism; universal laws in tourism.

1600104 Laws and Ethics for Information Technology

3 (3-0-6)

Prerequisite: None

General principle of the civil and commercial code with respect to establish or give up business, copyright, electronic commerce, ethics, and role of business for social, community. The important and development of individual, community, business, and social responsibilities.

1601100 Foundation of Legal Principles

4 (4-0-8)

Prerequisite: None

Meanings, evolution and origin of law ; rank of laws ; system of laws types of laws ; relationship between law and other sciences ; purview of law enforcement ; interpretation and elimination of legal loopholes ; concept of rights ; Civil and Commercial : Person and related laws.

1601101 Introduction to Legal Principles

3 (3-0-6)

Prerequisite: None

Origin and evolution of law; legal theories and nations; relationship between law and other sciences; application; drafting; interpretation; elimination of legal loopholes; rights; duties; excess over rights; other important principles of law.

1601201 Legal Aspects of Hospitality Industry

3 (3-0-6)

Prerequisite: None

History and significance of legal aspects of the hospitality and tourism industry and related issues.

1601202 Legal Interpretation and Legal Reasoning

2 (2-0-4)

Prerequisite: None

Principles of legal interpretation in various countries; legal references; legal interpreters; tools for legal interpretation; types and nature of legal interpretation; interpretation of treaties and private contracts; legal reasoning.

1601203 Property Law

3 (3-0-6)

Prerequisite: None

Meaning and categories of things and property; acquisition of rights in property; ownership; extent and exercise of ownership; possessory rights; other real rights.

1601204 Law of Obligations

4 (4-0-8)

Prerequisite: None

Meanings, types, sources, subjects, performance and effects of obligations; exercising debtor's claims; cancellation of fraudulent acts; plurality of creditors and debtors; transfer of claims; extinction of obligations.

1601205 Law of Delicts**3 (3-0-6)***Prerequisite: None*

Definition of delicts, liability for wrongful acts, compensation for wrongful acts, justifiable acts, prescription of delicts including the law of management of affairs without mandate and the law of undue enrichment.

1601301 Family Law**3 (3-0-6)***Prerequisite: None*

Betrothal; marriage; relationship of husband and wife; property of husband and wife; validity of marriage; dissolution of marriage; rights and duties of parent and child; guardianship; adoption and maintenance.

1601302 Law of Succession**3 (3-0-6)***Prerequisite: None*

Devolution of an estate; heirship; statutory rights of inheritance; distribution of portions to statutory heirs; representation for receiving inheritances; legatees; forms of wills; effects and interpretation of wills; validity of wills; clauses in wills; administration and distribution of estate; vacant estates; prescription.

1601401 Name Seminar on Civil and Commercial Law**2 (1-2-3)***Prerequisite: None*

Seminar on theories, practice and application of current issues on civil and commercial law.

1601402 Thai Legal History**2 (2-0-4)***Prerequisite: None*

History and evolution; development of Thai legal system and judicial system from Sukhothai period including Law of Lanna and Mangrai until now; legal and juridical reform of King Rama V; codification.

1601401 Name Seminar on Civil and Commercial Law**2 (1-2-3)***Prerequisite: None*

Seminar on theories, practice and application of current issues on civil and commercial law.

1601403 Thai and Foreign Legal System**2 (2-0-4)***Prerequisite: None*

History, evolution, legal principles and world juridical systems; development of Thai legal and juridical systems from Sukhothai period including laws of Lanna and mangrai; legal and juridical reform of King Rama V; Civil and commercial code.

1601404 Accounting for Lawyers**2 (2-0-4)***Prerequisite: None*

Application of accounting principles and criteria to legal exercise; relationship between accounting principles and company law, and taxation.

1601405 English for Lawyers 1**2 (2-0-4)***Prerequisite: None*

Legal terminology including definitions and English usage for general principles of law.

1601406 English for Lawyers 2**2 (2-0-4)***Prerequisite: 1601405*

Vocabulary and English legal terminology in several areas of law.

1601407 Legal Philosophy**2 (2-0-4)***Prerequisite: None*

Evolution of legal philosophy; fundamental problems in law.

1601408 Introduction to Comparative Law**2 (2-0-4)***Prerequisite: None*

Principles of comparative law consisting of importance, meaning, development and correlation of comparative law with law branches

1601409 Principles of Islamic Law and Use of Islamic Law in Thailand 2 (2-0-4)*Prerequisite: None*

Koran-based legislation; Islamic principles on Economics, bank and interest rates; legal implementation of business management for Islam in Thailand; Islamic law applicable on peace and harmony basis for family and estate-related lawsuits with Muslims in Satun, Yala, Patani and Narathiwat provinces; comparison to Civil and Commercial Code, book 5 and 6.

1601411 Legal Profession 2 (2-0-4)*Prerequisite: None*

Analysis of legal profession; judges, public prosecutors and attorneys; qualification and training; ethics and professional responsibilities.

1601412 Labor Law 1 2 (2-0-4)*Prerequisite: None*

Study of the general principle of labour law, historical backgrounds of labour law of Thailand, the current principle of Thai labour law, the contracts of employment, the law on labour protection and the law on labour relations as well as the law on labour court and labour procedure.

1601413 Labor Law 2 2 (2-0-4)*Prerequisite: 1601412*

Social Security Law, Workmen's Compensation Law, Laws that protect and provide jobs, and laws relating to the career of an alien

1601414 Name Social Welfare Law 2 (2-0-4)*Prerequisite: None*

Study of concepts and development of social welfare law; Social welfare law with development of social welfare law; A specific of social welfare law; Development in Thailand of social welfare law; Essence of the social welfare law and law enforcement in practice; Alteration of social welfare under social welfare law; Problem of edict and enforcement; and main issue for development and amendment in the future.

1601415 Foreign Legal System 2 (2-0-4)*Prerequisite: None*

History, evolution and legal principles; judicial system and influence of foreign legal system and principles of the world's major such as French legal system, German legal system and English legal system etc.

1601454 Legal Professional Experience 4 (0-8-0)*Prerequisite: None*

Practical learning experience in legal departments or law office.

1602101 Law of Persons 2 (2-0-4)*Prerequisite: None*

Beginning and extinction of status of ordinary persons; domicile; disappearance; principles of capacity to exercise rights; laws of juristic persons.

1602102 Property Law 3 (3-0-6)*Prerequisite: None*

Meaning and categories of things and property; acquisition of rights in property; ownership; extent and exercise of ownership; possessory rights; other real rights.

1602201 Electronic Transactions Law 2 (2-0-4)*Prerequisite: None*

Electronic Transactions, Electronic Signature, Personal Data Protection, Electronic Funds Transfer, Internet Intellectual property, Computer Crime, Judicial process of Information Technology.

1602202 Specific Contracts 3 2 (2-0-4)*Prerequisite: 1601413*

Civil and Commercial Code; compromise, gambling and betting, warehousing, innkeepers and current.

1602204 Law of Obligations**4 (4-0-8)***Prerequisite: None*

Meanings, types, sources, subjects, performance and effects of obligations; exercising debtor's claims; cancellation of fraudulent acts; plurality of creditors and debtors; transfer of claims; extinction of obligations.

1602205 Law of Delicts**3 (3-0-6)***Prerequisite: None*

Definition of delicts, liability for wrongful acts, Compensation for wrongful acts, justifiable acts, prescription of delicts including the law of management of affairs without mandate and the law of undue enrichment.

1602208 Law of Insurance**2 (2-0-4)***Prerequisite: None*

Types of insurance; insurance against loss; insurance on carriage; guarantee insurance; life insurance.

1602209 Law of Suretyships and Mortgage**2 (2-0-4)***Prerequisite: None*

Guarantee of debt by person or by property; suretyships; mortgage; pledge; other types of guarantees; enforcement; extinction.

1602210 Specific Contracts 1**3 (3-0-6)***Prerequisite: None*

Specific Contracts in Civil and Commercial Code ; Sales, exchange ; gift ; hire ; hire – purchase ; characteristics and forms ; rights and liabilities of contracting parties ; extinction of contract.

1602211 Specific Contracts 2**3 (3-0-6)***Prerequisite: None*

Specific Contracts in civil and commercial Code; characteristics and forms of; law of loans for use and for consumption; deposit; Agency; Brokers.

1602212 Specific Contracts 3**2 (2-0-4)***Prerequisite: None*

Civil and Commercial Code; compromise, gambling and betting, warehousing, innkeepers and current account

1602310 Law of Negotiable Instruments and**3 (3-0-6)***Prerequisite: None*

Current account bills of exchange; promissory notes; cheques; criminal offenses to the use of cheques; commercial business related to bills; and current accounts.

1602313 Law of Partnerships and Companies**3 (3-0-6)***Prerequisite: None*

Contracts of partnerships; ordinary partnership and limited partnership; limited and public companies; notions; nature; formation; management; dissolution; amalgamation; liquidation.

1602314 Law of Intellectual Property**3 (3-0-6)***Prerequisite: None*

Study of concepts and principles of law concerning intellectual property including economic analysis of the Law and international agreements; emphasizing Thailand law, i.e. The Copyright Act, The Patent Act, The Trademark Act, The Act of Establishment and Procedure of The Intellectual Property and International Trade Court; and other related laws.

1602315 Law of Negotiable Instruments**3 (3-0-6)***Prerequisite: None*

Current account bills of exchange; promissory notes; cheques; criminal offenses to the use of cheques; commercial business related to bills; and current accounts.

- 1602402 Name Taxation Law 3 (3-0-6)**
Prerequisite: None
 Principles, policies and theories on taxation; fundamental principles of income tax; income tax of natural and juristic persons; value added tax; special business tax.
- 1602403 Customs Law 2 (2-0-4)**
Prerequisite: None
 Nature, objectives, evolution and source of customs law; liability of customs fees; customs procedures; officials under customers law; powers and duties of customs officials; litigation; rules on tariffs; exemption; interpretation; investment promotion; customs law and industrial estates.
- 1602404 Banking and Financial Institutions Law 2 (2-0-4)**
Prerequisite: None
 Roles of commercial banks; control and promotion policies; legal norms of organization and operation; major activities and profit; impacts of international financial conditions.
- 1602405 Consumer Protection Law and Procedure 2 (2-0-4)**
Prerequisite: None
 Definition of consumer; protection of consumer and trade business; consumer protection act of B.E. 2522; consumer rights including laws of foods, drugs; cosmetics and Law of Consumer Protection Procedure including product liability.
- 1602406 Name Investment Law 2 (2-0-4)**
Prerequisite: None
 Importance of investments; Thai economic structure; policies and laws of investment in developing countries; investment law; portfolio investment law; financial institutional law of investment; other laws affecting.
- 1602407 Industrial Law 2 (2-0-4)**
Prerequisite: None
 General principles of industrial law; rules and regulations for application of licenses; legal control of plants; laws and plants safety; laws and international standard of industries.
- 1602408 Seminar on Taxation Law 2 (1-2-3)**
Prerequisite: None
 Seminars on theories, practice and application of issues on taxation laws.
- 1602409 Law on Marketing 2 (2-0-4)**
Prerequisite: None
 Theories and Concepts about promoting and marketing control. Law-related marketing components. The impact of the rule of law
- 1602414 Law of Intellectual Property 3 (3-0-6)**
Prerequisite: None
 Legal concepts; principles; economic notions; international agreements; intellectual property law of Thailand including the copyright act, the patent act, the trademark act and the act of establishment; procedures of intellectual property and international trade court; other related laws
- 1602415 Law of Securities Exchange 2 (2-0-4)**
Prerequisite: None
 Historical background; structure and managerial work of the securities exchange market; institutions of securities business control; trade of securities under Security exchange and security market act of B.E.2535; other laws of related to security exchange and security markets.
- 1602416 Settlement of Commercial Disputes and Arbitration 2 (2-0-4)**
Prerequisite: None
 Importance and impacts of commercial disputes; models, rationale and choices of methods to settle commercial disputes; theories, principles and techniques for settlement of various types of commercial disputes; evolution, concept, advantages and disadvantages of arbitration; consideration in negotiation; drafting arbitration contract; choice of law and place for arbitration; national and international laws of arbitration.

- 1602417 Principles of Contract Drafting** **2(2-0-4)**
Prerequisite: None
 Methods and problems in drafting of contracts; contract forms; legal forms; contract samples.
- 1602418 Real Estate Business Law** **2(2-0-4)**
Prerequisite: None
 Kinds and characteristics of land use for business exploitation of private sector; legal custody; laws related to residence, commercial building, condominium, shopping center and resort; practice and contracts of real estate business.
- 1602419 Competition Law** **2(2-0-4)**
Prerequisite: None
 Legal analysis in terms of economics; fair competition for optimum social benefits; protection of fair competition; analysis of other laws on competition.
- 1602421 Seminar on Civil and Commercial Law** **2(2-0-4)**
Prerequisite: None
 Seminar on theories, practice and application of current issues on civil and commercial law.
- 1602422 Land Law** **2(2-0-4)**
Prerequisite: None
 Law of management and exploitation of land; issuance of title deeds and documents; land law and land reform act.
- 1602423 Seminar on Business Law**
2 (1-3-3)
Prerequisite: None
 Seminar on theories, practice and application of current issues on business law.
- 1603101 Criminal Law 1 (General Principles)** **3(3-0-6)**
Prerequisite: None
 General characteristics; theory of criminal liability; jurisdiction; attempts; principals and supporters; concurrence offenses; criminal punishment and petty offenses; theories of criminology and penology.
- 1603202 Criminal Law 2 (Offenses)** **4(4-0-8)**
Prerequisite: 1603101
 Types of criminal offenses; security of the kingdom; government; justice; religion; public policy and trade; counterfeiting and alteration; sexual offenses; offenses against life; liberty; reputation; property; petty offenses; and, offenses under business acts.
- 1603301 Judicial System and Constitution of Courts of Justice** **2 (2-0-4)**
Prerequisite: None
 Constitution of court of justice; judiciary; court jurisdictions; judicial powers in trial; judicial system.
- 1603302 Law of Civil Procedure 1** **3 (3-0-6)**
Prerequisite: None
 General provisions on civil procedure; procedures at the trial court level.
- 1603303 Law of Civil Procedure 2** **3 (3-0-6)**
Prerequisite: None
 Principles of appeals; provisional measures; execution of judgment or order.
- 1603304 Criminal Procedure Law** **3 (3-0-6)**
Prerequisite: None
 Powers and competency of the inquiry officials and courts; prosecution; civil and penal actions; summons; criminal warrants; arrest and detention; imprisonment; search and bail; inquiry; criminal prosecution; preliminary examination; hearing judgements; orders in the appeals court and supreme court; execution; fees; pardons; commutation and reduction of punishment; criminal procedure in district courts.

- 1603305 Law of Evidence 3 (3-0-6)**
Prerequisite: None
 Study principles of evidence; principles of hearing and weighing evidences; and the provisions relating to the law of evidence under the Civil Procedure Code and the Criminal Procedure Code; including the processes of investigation and discovery.
- 1603308 Forensic Medicine 2 (2-0-4)**
Prerequisite: None
 Relationship between medical science and law; purpose of investigation and inquiry in criminal cases; verification of evidences for adjudication in court; trends.
- 1603309 Criminal Investigation 2 (2-0-4)**
Prerequisite: None
 Criminal investigation and process of officers and legal operation persons; scientific investigations; evidence finding; interrogation; proof and examination of evidence and witnesses; trends.
- 1603310 Juvenile and Family Justice 2 (2-0-4)**
Prerequisite: None
 Child rights; protection of children; juvenile offenses; judicial system; court procedure of juvenile and family cases; trends.
- 1603401 Seminar on Civil Procedure Law 2 (1-2-3)**
Prerequisite: None
 Seminar on theories, practices and application of current issues on civil procedure law.
- 1603402 Seminar on Criminal Procedure Law 2 (1-2-3)**
Prerequisite: None
 Seminar on theories, practices and application of current issues on criminal procedure law.
- 1603403 Seminar on Criminal Law 2 (2-0-4)**
Prerequisite: None
 Seminar on theories, practices and application of current issues on criminal law.
- 1603404 Criminology and Penology 2 (2-0-4)**
Prerequisite: None
 Relationship between criminological theories and criminal law; criminal procedure; development of theories of criminology; classification of crimes and criminal; scope of legal enforcement; social philosophies of punishment and treatment of offenders; trends.
- 1603405 Business Crime 2 (2-0-4)**
Prerequisite: None
 Definition of business crime; criminal offenses relating to business; state preventive measures and mechanisms for business crime; money laundering law; problems and prospects.
- 1603407 Counseling and Advocacy 2 (2-0-4)**
Prerequisite: None
 Legal advice to public; consultation for hypothetical problems; drafting of contracts; complaints; replies; motions; petitions; establishment and management of law firms; trends.
- 1604101 Constitutional Law 3(3-0-6)**
Prerequisite: None
 History; meaning; types; making processes; sovereignty; political institutions; legislative processes; rights; freedom and duties of the people; constitutional conformity; comparison of thai constitution with those of other countries.
- 1604202 Administrative Law 3(3-0-6)**
Prerequisite: None
 Thai administrative system; the relationship among political government organizations, rights of the public and private sectors, i.e. Public service management and concessions.

- 1604301 Mass Communication Law**
Prerequisite: None
 Legal philosophy and development of press in Thailand; rights and freedom of public and press under constitution; criminal law of libel; frequency waves and supervising radio/television broadcasting; movie laws; advertisement laws; copyright laws; other electronics media laws; law of government information; authorities of public officers; professionals ethic.
- 1604302 Constitutional Court and Procedure**
Prerequisite: None
 History, Evolution and function of Constitutional Court; the power of Constitutional Court; Procedure and judgment of the court.
- 1604303 Introduction to Public Economic Law**
Prerequisite: None
 Principles of economic law; meaning and development; the generalization and principle of public economic law; organization and operations related to the state economy. Control of state economic intervention.
- 1604304 Local Administrative Law**
Prerequisite: None
 Concepts of government administration; decentralization principles, evolution of local government, constitution of governing category; Law to decentralize administrative organization; Current law governing the organization part. And authority of these organizations. Especially in the prepared public service Corporate governance rule; All other laws. Related.
- 1604305 Law on Inspection of Exercise of State Power**
Prerequisite: None
 Monitoring the use of state power. Role and authority of the organization such as The National Counter Corruption Commission, The National Human Rights Commission, Office of the Ombudsman as well as people's participation in monitoring the use of state power.
- 1604401 Seminar on Public Law**
Prerequisite: None
 Discuss and analysis about important legal issues publicly
- 1604402 Electoral and Political Party Law**
Prerequisite: None
 History of political party, current situation of political party, political party's structures, Political Party's operation ; including function of Political Party, electoral system, organization of elections management in Thailand and foreign countries.
- 1604403 Administrative Court and Procedure**
Prerequisite: None
 Judicial control of state power; jurisdiction of administrative court; organization of administrative court; procedure of administrative court; execution of administrative judgment.
- 1604404 Administrative Procedure Law**
Prerequisite: None
 Substantive and procedural principles of administrative law; administrative acts; administrative procedure; discretionary power; interlocutory appeal of administrative acts; revocation of administrative acts; request for retrial; administrative execution; committee of administrative procedure.
- 1604405 State Contracts**
Prerequisite: None
 Legal principles of state contracts; components, process and forms of state contracts; state contracts in accordance to civil law; administration contracts; significant issues in negotiating state contracts; case studies; contracts with foreign elements.

1604406 Public Information Access and Rights of Privacy Law**2(2-0-4)***Prerequisite: None*

Theories and concepts of information and freedom; balance between freedom of expression and protection of private rights and liberty; computerized information store and individual rights; computer control law.

1604408 Public Finance Law**2 (2-0-4)***Prerequisite: None*

Sources, theories and basic concepts of public finance law; state's monetary and finance policies; state organizations for public finance; state revenue; public loans and expenditures; process in state budgeting; examining budget spending; forms of state monetary and public finance.

1604409 Taxation Law**3 (3-0-6)***Prerequisite: None*

Principles, policies and theories on taxation; fundamental principles of income tax; income tax of natural and juristic persons; value added tax; special business tax.

1604415 Environmental Law**2 (2-0-4)***Prerequisite: None*

Causes of environmental problems; impacts on life, society and country; governmental control measures; state policies; responsible agencies; laws related to environmental conservation and protection of air, water and wildlife; litigation procedures for damages and compensation.

1604416 Military Law and Laws on National Security**2 (2-0-4)***Prerequisite: None*

Power authorization of military and civilian security offices under constitutional law; roles and authorities of offices of the national security council, national intelligence office and national police office; limitation of power of administrative and civilian bodies during war or turbulent time; Military criminal code; law of military court; law on defense administration procedures; martial law; law on emergency situations; military conscription law; national security laws; regulations on armed civilian forces.

1604418 Parliament Law**2 (2-0-4)***Prerequisite: None*

History and Evolution of Parliament, the importance of the Parliamentary democracy, figure of the parliament democracy, figure of the parliament, the independence of the parliament, rules of council and administration of parliament, Commission, select committee, including function of check and balance

1604419 Administrative Procedure Law**2 (2-0-4)***Prerequisite: None*

Substantive and procedural principles of administrative law; administrative acts; administrative procedure; discretionary power; interlocutory appeal of administrative acts; revocation of administrative acts; request for retrial; administrative execution; committee of administrative procedure.

1605401 Public International Law**3 (3-0-6)***Prerequisite: None*

General characteristics; sources; relationship between international and national laws; subjects of international laws; rights and duties of states; sovereignty; high sea; treaties; settlement of international disputes; war and neutrality.

1605402 Private International Law**3 (3-0-6)***Prerequisite: None*

General principles; action conflicts of law; nationality act; acquisition of rights or status of aliens; agreement on choice of law in contracts.

1605403 International Economic Law**2 (2-0-4)***Prerequisite: None*

Establishment, structure, role and function of World Trade Organization (WTO); legal principles and major issues of General Agreement on Trade in Service (GATS); Agreement on Trade in Intellectual Property Rights (TRIPS); recent major issues of multilateral trade negotiation.

1605404 International Trade Law 2 (2-0-4)*Prerequisite: None*

Evolution and sources of international trade law; international economic regulations affecting international trade; law of international trade contracts; uniform law of international trade; international trade terms; execution of international sales agreement; carriage and insurance of goods; international balance payments; dispute settlement in international trade.

1605405 International Organization Law 2 (2-0-4)*Prerequisite: None*

Development of international organizations; structures, authority and duties of league of nations and United Nations (UN); roles of general assembly, security council; economic and social council; trusteeship council; secretariat and international court of justice; powers and duties of specialized agencies; roles of International Labor Organization (ILO); United Nations Educational, Scientific and Cultural Organization (UNESCO); and World Health Organization (WHO); regional organizations such as European community (EU); Association of South-East Asian Nations (ASEAN); organization of American States and organization for African Unity.

1605406 European Union Law 2 (2-0-4)*Prerequisite: None*

General legal principles of European Union; international law and European Union; institutions of European union; rights and duties of member states of European union; jurisdiction of European court of justice; problems and prospects.

1605407 ASEAN Law 2 (2-0-4)*Prerequisite: None*

Establishment of association of South East Asia Nations (ASEAN); historical background; legal instrument; structure; subsidiary organizations; cooperation among members States of ASEAN; cooperation of ASEAN and other countries in the region and outside the region; emphasis on activities between Thailand and member countries; trends.

1605408 Law of the Sea 2 (2-0-4)*Prerequisite: None*

State maritime jurisdiction; maritime delimitation; exploration and exploitation of living and non-living maritime resources; problems and trends.

1605409 Maritime Law 2 (2-0-4)*Prerequisite: None*

Laws on water transport; ships; agreements on carriage of goods by sea; collision at sea; salvage at sea; laws of towage; laws of sea zone for vessels; problems and prospects.

1605410 Air Law 2 (2-0-4)*Prerequisite: None*

Legal principles of international and national air frontier; state sovereign right over air space and freedoms; regulations of international aviation and air transportation; International Civil Aviation Organization (ICAO); responsibility of international air carriers; trends.

1605411 Human Rights Law 2 (2-0-4)*Prerequisite: None*

Definition and philosophy of human rights; protection of human rights by international organizations such as league of nations and united nations; protection of human rights at regional level; protection of human rights under Thai law; problems and prospects.

1605412 International Criminal Law 2 (2-0-4)*Prerequisite: None*

Definition of international criminal law; criminal jurisdiction in international law; territorial and personal jurisdiction; universal jurisdiction on punishment; international crime; extradition; conflict of criminal laws; international cooperation in criminal matters; problems and trends.

1605413 Seminar on International Law 2 (2-0-4)*Prerequisite: None*

Seminars on theories, practice and application of current issues on international law.

- 1605414 International Humanitarian Law 2 (2-0-4)**
Prerequisite: None
 General concept of the international humanitarian law, legal principles system and implementing of general war, civilian, refugee, prisoner of law and the enforcement of international humanitarian law.
- 1605415 International Environmental Law 2 (2-0-4)**
Prerequisite: None
 History, evolution and critical ideas of International Environmental law, Organizations and agreement about International Environmental law at International level, environmental relation of trade, social, investment, international politic, the influence of international environmental law to the world community.
- 1605416 Law of Treaties 2 (2-0-4)**
Prerequisite: None
 International Law of Treaties base on Vienna Convention on the Low of Treaties, 1969; concept of treaties, conclusion of treaties. Enforcement of treaties, invalidity of treaties, interpretation of treaties, termination of treaties, registration and publication of treaties.
- 1605417 Seminar on International Law 2 (1-3-3)**
Prerequisite: None
 Seminars on theories, practice and application of current issues on international law.
- 1606301 Judicial System and Constitution of Courts of Justice 2 (2-0-4)**
Prerequisite: None
 Constitution of court of justice; judiciary; court jurisdictions; judicial powers in trial; judicial system.
- 1606302 Law of Civil Procedure 1 3 (3-0-6)**
Prerequisite: None
 General provisions on civil procedure; procedures at the trial court level.
- 1606303 Law of Civil Procedure 2 3 (3-0-6)**
Prerequisite: 1606302
 Principles of appeals; provisional measures; execution of judgment or order.
- 1606304 Criminal Procedure Law 3 (3-0-6)**
Prerequisite: None
 Powers and competency of the inquiry officials and courts; prosecution; civil and penal actions; summons; criminal warrants; arrest and detention; imprisonment; search and bail; inquiry; criminal prosecution; preliminary examination; hearing judgements; orders in the appeals court and supreme court; execution; fees; pardons; commutation and reduction of punishment; criminal procedure in district courts.
- 1606305 Bankruptcy Law 3 (3-0-6)**
Prerequisite: None
 Bankruptcy proceedings; management of debtor's assets; powers and duties of receiver; proceeding of reorganizing business of debtor.
- 1606307 Law of Evidence 2 (2-0-4)**
Prerequisite: None
 General principles of evidence; hearing; weighing; provisions of evidence under Civil procedure code and Criminal procedure code; investigation and discovery.
- 1606408 Seminar on Civil Procedure Law 2 (2-0-4)**
Prerequisite: None
 Seminar on theories, practices and application of current issues on civil procedure law.
- 1606409 Seminar on Criminal Procedure Law 2 (2-0-4)**
Prerequisite: None
 Seminar on theories, practices and application of current issues on criminal procedure law.

1606412 Juvenile and Family Justice

2 (2-0-4)

Prerequisite: None

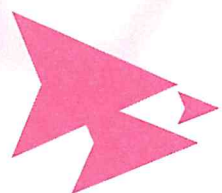
Child rights; protection of children; juvenile offenses; judicial system; court procedure of juvenile and family cases; trends.

1606413 Counseling and Advocacy

2 (2-0-4)

Prerequisite: None

Legal advice to public; consultation for hypothetical problems; drafting of contracts; complaints; replies; motions; petitions; establishment and management of law firms; trends.



School of Science

► Applied Chemistry

► Biosciences

School of Science

Mae Fah Luang University

The mission of the School of Science during its intermediate phase (from its fifth to eighth years) is to become a consumer-oriented unit which promotes excellence in research in key areas of science, demonstrates evidence of high-quality teaching and learning in an environment informed by internationally-important research, and makes significant contributions to the economic, social, and cultural development of the North of Thailand, Thailand as a whole, the Greater Mekong Sub-region, and elsewhere.

Current Teaching Programs:

At present, the School of Science offers two bachelor's degree programs, as follows:

Bachelor of Science in Biosciences

The Bachelor of Science program in Biosciences is a multi-disciplinary program that recognizes the importance of the great diversity of biological resources in the country, particularly in the Northern region and thus emphasizes the utilization of the resources for the benefits of the country, in general and local people, in particular. The program aims to educate the student to have both knowledge and experience in three major areas of expertise, including Biotechnology, Agricultural Science, and Applied Microbiology and enable them to apply their expertise in the innovative development of bio-industries that are friendly to the environment.

Content:

The Bachelor of Science program in Biosciences offers the following three different major fields of study.

1. Biotechnology – Study of the application of biological principles and techniques for the production of useful substances and services from living organisms for the benefit of humans.
2. Agricultural Science - Study of the application of agricultural science for the production of agricultural products with the emphasis on products from plants.
3. Applied Microbiology - Study of the application of microbiological techniques for the industrial production of useful products from microorganisms, such as bacteria, yeasts, and fungi.

Bachelor of Science in Applied Chemistry

The Bachelor of Science program in Applied Chemistry applies the principles of chemistry for research and development of natural products and polymers that are crucial for various industries in Thailand, e.g., medical, pharmaceutical, and agricultural industries. The program aims to educate students to have both the knowledge and experience in two major areas of expertise including Natural Products Chemistry and Polymer Chemistry to enable them to apply their expertise in the innovative development of natural products and polymers that will play an important role in the economic and social development of the country.

Content:

The Bachelor of Science program in Applied Chemistry offers the following two different major fields of study.

1. Natural Products Chemistry - Study of the application of chemical principles and techniques for the production of useful natural products from living organisms, particularly from plants, for the benefit of humans.
2. Polymer Chemistry - Study of the application of chemical principles and techniques for the synthesis of polymers from natural sources such as plants and microorganisms, and the application of polymers in the manufacturing of various products such as medical materials, sports materials, as well as for modern technologies such as space technology and nanotechnology.



Bachelor of Science Program in Applied Chemistry B.Sc. (Applied Chemistry)

Total Credit	132 Credits
1. General Education Courses	30 Credits
2. Specific Requirement Courses	96 Credits
2.1 Core Courses	71 Credits
2.2 Major Required Courses	13 Credits
2.3 Major Elective Courses	12 Credits
3. Free Elective Courses	6 Credits

1. General Education Courses	30 Credits
	Cr(Le-Pr-SS)*
1001103 Thai Language Skills	2 (2-0-4)
1001112 Logical Thinking	2 (1-2-5)
1001121 Recreation and Sport for Well-Being	1 (0-2-1)
1001141 General Psychology	3 (3-0-6)
1006217 English for Communication	3 (2-3-5)
1006218 Academic Reading and Writing	3 (2-3-5)
1006301 College Writing	2 (2-0-4)
1006302 Academic Oral Skills	2 (2-0-4)
1006303 English for Professional Purposes	1 (0-2-1)
1006303 English for Professional Success	1 (0-2-1)
1101101 Professional Ethics	1 (1-0-2)
1202114 Introduction to Economics	3 (3-0-6)
1301104 Introduction to Information Technology	3 (2-2-5)
1601101 Introduction to Legal Principles	3 (3-0-6)

2. Specific Requirement Courses	96 Credits
2.1 Core Courses	71 Credits
	Cr(Le-Pr-SS)*
1101102 Entrepreneurship for Science	1 (0-2-1)
1102101 General Chemistry 1	3 (2-3-5)
1102102 General Chemistry 2	3 (2-3-5)
1102160 Introduction to Applied Chemistry	1 (1-0-2)
1102211 Analytical Chemistry 1	4 (3-3-7)
1102212 Analytical Chemistry 2	4 (3-3-7)
1102221 Physical Chemistry 1	3 (3-0-6)
1102222 Physical Chemistry 2	3 (3-0-6)
1102231 Organic Chemistry 1	4 (3-3-7)
1102232 Organic Chemistry 2	4 (3-3-7)
1102250 Principles of Biochemistry	3 (2-3-5)
1102311 Spectroscopic Methods in Chemistry	3 (3-0-6)
1102331 Organic Chemistry 3	3 (3-0-6)
1102340 Principles of Inorganic Chemistry	4 (3-3-7)
1102491 Seminar	1 (0-3-1)
1102492 Research Project	6 (0-40-12)
or	
1102495 Co-operative Education	6 (0-40-12)
or	
1102496 Overseas Training	6 (0-40-12)
1103101 General Biology 1	3 (2-3-5)
1103102 General Biology 2	3 (2-3-5)
1104101 General Physics 1	3 (2-3-5)
1104102 General Physics 2	3 (2-3-5)
1106103 Mathematics 1	3 (3-0-6)
1106104 Mathematics 2	3 (3-0-6)
1106282 Statistics and Experimental Design	3 (3-0-6)

2.2 Major Required Courses

Major Required Course for Natural Product Chemistry Major

1102251	Advanced Biochemistry
1102332	Organic Chemistry 4
1102361	Natural Products Chemistry
1102461	Naturally Occurring Medicinal Products

13 Credits

Cr(Le-Pr-SS)*

3	(2-3-5)
3	(3-0-6)
4	(3-3-7)
3	(3-0-6)

Major Required Course for Polymers Chemistry Major

1108341	Polymers Synthesis and Characterization
1108342	Polymers Synthesis and Characterization Laboratory
1108343	Polymers Degradation and Stabilization
1108441	Natural Polymers
1108442	Structure-Property Relationship in Polymers

Cr(Le-Pr-SS)*

3	(3-0-6)
1	(0-3-1)
3	(3-0-6)
3	(3-0-6)
3	(3-0-6)

2.3 Major Elective Courses

Biotechnology Major and Agricultural Science Major

Select from the following	
1102333	Heterocyclic Chemistry
1102334	Pericyclic Reactions
1102335	Organic Photochemistry
1102431	Bio-Organic Chemistry
1102432	Advanced Organic Chemistry
1102433	Stereochemistry
1102434	Modern Organic Synthetic Reactions
1102435	Nuclear Magnetic Resonance Spectroscopy for Natural Product Compounds
1102462	Nutrition and Food Supplements
1102463	Computational Chemistry
1102464	Industrial Chemistry
1102465	Special Problem in Applied Chemistry
1102466	Topic of Current Interest
1108443	Polymer Blends and Composites
1108444	Modern Trends in Polymer Synthesis
1108445	Polymer in Solution
1108744	Polymer Processing
1108745	Specialty Polymers

12 Credits

Cr(Le-Pr-SS)*

3	(3-0-6)
3	(3-0-6)
3	(3-0-6)
3	(3-0-6)
3	(3-0-6)
3	(3-0-6)
3	(3-0-6)
3	(3-0-6)
3	(3-0-6)
3	(0-9-3)
3	(3-0-6)
3	(3-0-6)
3	(3-0-6)
3	(3-0-6)
3	(3-0-6)
2	(2-0-4)

3. Free Elective Courses not less than

xxxxxxx	Free Elective
xxxxxxx	Free Elective

6 Credits

Cr(Le-Pr-SS)*

3	(3-0-6)
3	(3-0-6)

At least six credits of free electives can be chosen from any course offered by Mae Fah Luang University.

* Cr : Credit
Le : Lecture
Pr : Practice
SS : Self Study



Bachelor of Science Program in Biosciences B.Sc. (Biosciences)

Total Credit

1. General Education Courses

2. Specific Requirement Courses

2.1 Core Courses

2.2 Major Required Courses

2.3 Major Elective Courses

3. Free Elective Courses

133 Credits

30 Credits

97 Credits

51 Credits

40 Credits

6 Credits

6 Credits

1. General Education Courses

30 Credits

Cr(Le-Pr-SS)*

1001103	Thai Language Skills	2 (2-0-4)
1001112	Logical Thinking	2 (1-2-3)
1001121	Recreation and Sport for Well-Being	1 (0-2-1)
1001141	General Psychology	3 (3-0-6)
1006217	English for Communication	3 (2-3-5)
1006218	Academic Reading and Writing	3 (2-3-5)
1006301	College Writing	2 (2-0-4)
1006302	Academic Oral Skills	2 (2-0-4)
1006303	English for Professional Purposes	1 (0-2-1)
1006303	English for Professional Success	1 (0-2-1)
1101101	Professional Ethics	1 (1-0-2)
1202114	Introduction to Economics	3 (3-0-3)
1301104	Introduction to Information Technology	3 (2-2-5)
1601101	Introduction to Legal Principles	3 (3-0-6)

2. Specific Requirement Courses

97 Credits

2.1 Core Courses

51 Credits

Cr(Le-Pr-SS)*

1102101	General Chemistry 1	3 (2-3-5)
1102102	General Chemistry 2	3 (2-3-5)
1102210	Principles of Analytical Chemistry	3 (2-3-5)
1102223	Principles of Physical Chemistry	3 (3-0-6)
1102230	Principles of Organic Chemistry	3 (2-3-5)
1102250	Principles of Biochemistry	3 (2-3-5)
1103101	General Biology 1	3 (2-3-5)
1103102	General Biology 2	3 (2-3-5)
1103211	Microbiology	4 (3-3-7)
1103222	Genetics	3 (2-3-5)
1103326	Molecular Biology	3 (2-3-5)
1103342	Ecology	3 (2-3-5)
1104100	Principles of Physics	3 (2-3-5)
1105101	Introduction to Biotechnology	1 (1-0-2)
1105402	Introduction to Bioinformatics	1 (0-3-1)
1106103	Mathematics 1	3 (3-0-6)
1106104	Mathematics 2	3 (3-0-6)
1106282	Statistics and Experimental Design	3 (3-0-6)

2.2 Major Required Courses

40 Credits

Major Required Course for Biotechnology Major

Cr(Le-Pr-SS)*

1101102	Entrepreneurship for Science	1 (0-2-1)
1103332	Plant Molecular Physiology	3 (2-3-5)
1105323	Gene Technology 1	3 (2-3-5)
1105324	Gene Technology 2	3 (2-3-5)
1105325	Plant Biotechnology	3 (2-3-5)
1105342	Medical and Pharmaceutical Biotechnology	3 (2-3-5)
1105352	Industrial Biotechnology	3 (2-3-5)

1105353	Bioprocess Engineering	3 (2-3-5)
1105362	Food Biotechnology	3 (2-3-5)
1105371	Immunology	3 (2-3-5)
1105431	Microbial Biotechnology	3 (2-3-5)
1105491	Special Problem	3 (0-9-3)
1105492	Research Project	6 (0-40-12)
	or	
1105495	Co-operative Education	6 (0-40-12)
	or	
1105496	Overseas Training	6 (0-40-12)

Major Required Course for Agricultural Science Major

Major Required Course for Agricultural Science Major		Cr(Le-Pr-SS)*
1101102	Entrepreneurship for Science	1 (0-2-1)
1103324	Plant Genetics and Evolution	3 (2-3-5)
1103331	Plant Ecophysiology	3 (2-3-5)
1103352	Plant Systematics	3 (2-3-5)
1105491	Special Problem	3 (0-9-3)
1105492	Research Project	6 (0-40-12)
	or	
1105495	Co-operative Education	6 (0-40-12)
	or	
1105496	Overseas Training	6 (0-40-12)
1109311	Soil, Nutrient and Water Management for Crop Production	3 (2-3-5)
1109321	Disease and Pest Management for Crop Production	3 (2-3-5)
1109331	Plant Breeding 1	3 (2-3-5)
1109341	Economic Crop Production 1	3 (2-3-5)
1109342	Economic Crop Production 2	3 (2-3-5)
1109431	Plant Breeding 2	3 (2-3-5)
1110362	Agricultural Microbiology	3 (2-3-5)

Major Required Course for Applied Microbiology Major

		Cr(Le-Pr-SS)*
1101102	Entrepreneurship for Science	1 (0-2-1)
1103311	Environmental Microbiology	3 (2-3-5)
1103312	Industrial Microbiology	3 (2-3-5)
1103313	Microbial Physiology	3 (2-3-5)
1103325	Microbial Genetics	3 (2-3-5)
1105371	Immunology	3 (2-3-5)
1105491	Special Problem	3 (0-9-3)
1105492	Research Project	6 (0-40-12)
	or	
1105495	Co-operative Education	6 (0-40-12)
	or	
1105496	Overseas Training	6 (0-40-12)
1110301	Mycology	3 (2-3-5)
1110302	Virology	3 (2-3-5)
1110351	Bacterial Diversity and Systematics	3 (2-3-5)
1110362	Agricultural Microbiology	3 (2-3-5)
1402212	Food Microbiology	3 (2-3-5)

2.3 Major Elective Courses

6 Credits

Major Elective Course for Biotechnology Major

Major Elective Courses for Biotechnology Major		Cr(Le-Pr-SS)*
	Select from the following	
1103311	Environmental Microbiology	3 (2-3-5)
1103312	Industrial Microbiology	3 (2-3-5)
1103313	Microbial Physiology	3 (2-3-5)
1103324	Plant Genetics and Evolution	3 (2-3-5)
1103325	Microbial Genetics	3 (2-3-5)
1103331	Plant Ecophysiology	3 (2-3-5)
1103352	Plant Systematics	3 (2-3-5)

Major Elective Course for Agricultural Science Major

	Select from the following	Cr(Le-Pr-SS)*
1103311	Environmental Microbiology	3 (2-1-0)
1103312	Industrial Microbiology	3 (2-1-0)
1103313	Microbial Physiology	3 (2-1-0)
1103323	Microbial Genetics	3 (3-0-0)
1103325	Microbial Genetics	3 (2-1-0)
1103332	Plant Molecular Physiology	3 (2-1-0)
1105322	Algal Biotechnology	3 (2-1-0)
1105323	Gene Technology 1	3 (2-1-0)
1105324	Gene Technology 2	3 (2-1-0)
1105325	Plant Biotechnology	3 (2-1-0)
1105342	Medical and Pharmaceutical Biotechnology	3 (2-1-0)
1105352	Industrial Biotechnology	3 (2-1-0)
1105353	Bioprocess Engineering	3 (2-1-0)
1105361	Plant Biochemistry	4 (3-1-0)
1105362	Food Biotechnology	3 (2-1-0)
1105371	Immunology	3 (2-1-0)
1105403	General Entomology	3 (2-1-0)
1105412	Medicinal Plants	3 (2-1-0)
1105413	Orchidology	3 (2-1-0)
1105421	Plant Production Technology	3 (2-1-0)
1105431	Microbial Biotechnology	3 (2-1-0)
1105432	Yeast Biotechnology	3 (2-1-0)
1105451	Immobilised Biocatalyst	3 (2-1-0)
1105461	Plant Secondary Metabolites	3 (2-1-0)
1110301	Mycology	3 (2-1-0)
1110302	Virology	3 (2-1-0)
1110351	Bacterial Diversity and Systematics	3 (2-1-0)
1401202	Food Processing 1	3 (2-1-0)
1401303	Food Processing 2	3 (2-1-0)
1402211	Food Microbiology	4 (3-1-0)
1402212	Food Microbiology	3 (2-1-0)

Major Elective Course for Applied Microbiology Major

	Select from the following	Cr(Le-Pr-SS)*
1103324	Plant Genetics and Evolution	3 (2-1-0)
1103331	Plant Ecophysiology	3 (2-1-0)
1103332	Plant Molecular Physiology	3 (2-1-0)
1103352	Plant Systematic	3 (2-1-0)
1105322	Algal Biotechnology	3 (2-1-0)
1105323	Gene Technology 1	3 (2-1-0)
1105324	Gene Technology 2	3 (2-1-0)
1105325	Plant Biotechnology	3 (2-1-0)
1105342	Medical and Pharmaceutical Biotechnology	3 (2-1-0)
1105352	Industrial Biotechnology	3 (2-1-0)
1105353	Bioprocess Engineering	3 (2-1-0)
1105361	Plant Biochemistry	4 (3-1-0)
1105362	Food Biotechnology	3 (2-1-0)
1105403	General Entomology	3 (2-1-0)
1105412	Medicinal Plants	3 (2-1-0)
1105413	Orchidology	3 (2-1-0)
1105421	Plant Production Technology	3 (2-1-0)
1105431	Microbial Biotechnology	3 (2-1-0)
1105432	Yeast Biotechnology	3 (2-1-0)
1105451	Immobilised Biocatalyst	3 (2-1-0)
1105461	Plant Secondary Metabolites	3 (2-1-0)
1109311	Soil, Nutrient and Water Management for Crop Production	3 (2-1-0)
1109321	Disease and Pest Management for Crop Production	3 (2-1-0)
1109331	Plant Breeding 1	3 (2-1-0)

1109341	Economic Crop Production 1	3 (2-1-0)
1109342	Economic Crop Production 2	3 (2-1-0)
1109431	Plant Breeding 2	3 (2-1-0)
1109451	Seed Technology and Production	3 (2-1-0)
1401202	Food Processing 1	3 (2-1-0)
1401303	Food Processing 2	3 (2-1-0)
1402211	Food Microbiology	4 (3-1-0)

3. Free Elective Courses not less than

6 Credits Cr(Le-Pr-SS)*

xxxxxxx	Free Elective	3 (3-0-6)
xxxxxxx	Free Elective	3 (3-0-6)

At least six credits of free electives can be chosen from any course offered by Mae Fah Luang University.

* Cr : Credit
Le : Lecture
Pr : Practice
SS : Self Study

Descriptions::

School of Science

1101100 Science for Life

3 (3-0-6)

Prerequisite: None

Chemicals used in daily life; harmful and pollution to human and environment; application and precaution of solar radiation and radioactive compounds; working system and maintenance of electrical appliances.

1101101 Professional Ethics

1 (1-0-2)

Prerequisite: None

Moral principles and rules of conduct of research including genetic manipulation; ethnics and biodiversity; ethics and the environment; ethics and laws; current issues in professional ethics.

1101102 Entrepreneurship for Science

1 (0-2-1)

Prerequisite: None

Planning, starting and managing a new scientifically oriented business venture; discussing on case studies and assigned reading, as well as outside lectures by entrepreneurships in science and industries; topics include new technology evaluations and assessment; business formation; resource allocation; management, development as well as manufacturing and sales issues.

1102100 Principles of Chemistry

3 (2-3-5)

Prerequisite: None

Elements and periodic table; chemical bonding and intermolecular forces; chemical nomenclatures; chemical stoichiometry; kinetic theory of gas; physical state of matters; heat of reaction; chemical equilibria; rate of reaction; redox reactions; introduction to organic and environmental chemistry.

1102101 General Chemistry 1

3 (2-3-5)

Prerequisite: None

Atomic structures; periodic table and representative elements; chemical bonding; gases, liquids, solids and solutions; chemical equilibria.

1102102 General Chemistry 2

3 (2-3-5)

Prerequisite: 1102101

Chemical kinetics; ionic equilibrium; electrochemical reactions; thermodynamics; transition elements; complex compounds; nuclear chemistry.

1102160 Introduction to Applied Chemistry

1 (1-0-2)

Prerequisite: None

Background in various fields of applied chemistry; applications and career guidelines.

1102210 Principles of Analytical Chemistry

3 (2-3-5)

Prerequisite: 1102102

Stoichiometry; analytical techniques including titration, weight, spectroscopy and chromatography.

1102211 Analytical Chemistry 1

4 (3-3-7)

Prerequisite: 1102102

Treatment of experimental data and error in analysis; techniques and tools of quantitative analysis; volumetric and gravimetric methods of analysis; solvent extraction.

1102212 Analytical Chemistry 2

4 (3-3-7)

Prerequisite: 1102211

Chromatographic separation; atomic absorption spectroscopy; atomic emission spectroscopy; electroanalytical chemistry; thermoanalytical methods.

- 1102221 Physical Chemistry 1** **3 (3-0-6)**
Prerequisite: None
 Thermodynamics in chemical systems and thermodynamic laws; phase equilibria; statistical mechanics and kinetics ; kinetics theory of gases; transportation of gases; chemical kinetics of gases and liquids; diffusion and diffusion laws; Brownian motion; viscosity; rheology of liquid; chemistry of solid, liquid and crystal.
- 1102222 Physical Chemistry 2** **3 (3-0-6)**
Prerequisite: 1102221
 Quantum chemistry; surface tension and surface energy of liquid, solution and solid; Young- Laplace equation; capillary action; thermodynamics of interfaces; adsorption and catalysis; colloids; electrophoresis; electro-osmosis; electrical and magnetic properties of molecules; polarisation of dielectric substances; magnetisation.
- 1102223 Principles of Physical Chemistry** **3 (2-3-5)**
Prerequisite: 1102102
 Gases; kinetic theory of gas; thermodynamics and thermochemistry; solution and phase equilibria; colligative properties; liquid surface tension and viscosity; adsorption of solution and solid.
- 1102230 Principles of Organic Chemistry** **3 (2-3-5)**
Prerequisite: 1102102
 Structures, properties and nomenclatures of organic compounds; stereochemistry; preparation and characterization of organic compounds and derivatives.
- 1102231 Organic Chemistry 1** **4 (3-3-7)**
Prerequisite: 1102102
 Structure and bonding in organic compounds; classification, nomenclatures and properites of organic compounds; stereochemistry; mechanism of organic reactions; functional group interconversion of organic compounds.
- 1102232 Organic Chemistry 2** **4 (3-3-7)**
Prerequisite: 1102231
 Reactions of carbonyl compounds; conjugated compounds; aromatic compounds; carbohydrates; amino acids; proteins; nucleic acids and lipids; heterocyclic compounds.
- 1102250 Principles of Biochemistry** **3 (2-3-5)**
Prerequisite: 1102102 and 1103102
 Structures, properties and functions of biomolecules; mechanism, metabolism and application of biochemistry to genetics and nutrition.
- 1102251 Advanced Biochemistry** **3 (2-3-5)**
Prerequisite: 1102250
 Enzyme; characteristics of enzymes and enzymic reactions of important biological processes; patterns of biological degradation; cell metabolism; medical biochemistry; biochemistry in biotechnology.
- 1102311 Spectroscopic Methods in Chemistry** **3 (3-0-6)**
Prerequisite: 1102212
 Introduction to molecular spectroscopy: Ultraviolet-visible spectroscopy, infrared spectroscopy, nuclear magnetic resonance spectroscopy and mass spectrometry.
- 1102331 Organic Chemistry 3** **3 (3-0-6)**
Prerequisite: 1102232
 Pericyclic chemistry; cycloaddition reaction; electrocyclic reaction; sigmatropic rearrangements; ene reactions; free radical reactions; carbene and nitrene reactions.
- 1102332 Organic Chemistry 4** **3 (3-0-6)**
Prerequisite: 1102331
 Cyclisation reactions; alkylation of nucleophilic carbons; reaction of carbon nucleophiles with carbonyl groups; functional groups interconversion by nucleophilic substitution; electrophilic additions to carbon-carbon multiple bonds; reduction of carbonyl and other functional groups; organometallic compounds; oxidations and multi-steps syntheses.

1102333 Heterocyclic Chemistry**3 (3-0-6)***Prerequisite:* 1102331

Structures, general properties, preparation and reactions of heterocyclic compounds of nitrogen, oxygen and sulfur, which contain 2 hetero-atoms, for example imidazoles, thiazoles, oxazoles, prazoles, isothiazoles, iso-oxazoles, pyridazoles, pyrimidines, pyrazines and some interested heterocyclic compounds in natural products.

1102334 Pericyclic Reaction**3 (3-0-6)***Prerequisite:* 1102331

Pericyclic reactions; electrocyclic reactions; cycloaddition reactions; chelotropic reactions; sigmatropic reactions; free radical reactions; carbene and nitrene reactions; and other involved reactions.

1102335 Organic Photochemistry**3 (3-0-6)***Prerequisite:* 1102331

Activation by photochemistry; photochemistry reactions of α , β -unsaturated carbonyl ketone, olefin and aromatic compounds; substitution of aromatic ring; reaction mechanism of photochemistry; applications of photochemistry reactions to organic syntheses.

1102340 Principles of Inorganic Chemistry**4 (3-3-7)***Prerequisite:* 1102102

Bonding and symmetry of inorganic molecules; acid-base and redox chemistry; chemistry of transition elements and complexes; coordination compounds.

1102361 Natural Products Chemistry**3 (3-0-6)***Prerequisite:* None

Study of natural products: acetogenins, isoprenoids and alkaloids; extraction and characterisation of natural products.

**1102402
1102431 Bio-Organic Chemistry****3 (3-0-6)***Prerequisite:* None

Properties and synthetic modifications of biological molecules: carbohydrates, amino acids, peptides and proteins, nucleic acids, examples of the use of enzymes in organic synthesis.

1102432 Advanced Organic Chemistry**3 (3-0-6)***Prerequisite:* 1102332

Theory and reaction mechanisms of organic compounds; thermodynamics and stereochemistry for predicting the reactions; protecting groups for organic synthesis, asymmetric synthesis.

1102433 Stereochemistry**3 (3-0-6)***Prerequisite:* 1102332

Conceptual basis of static stereochemistry; emphasis on structure and symmetry; classification of stereoisomers, molecular chirality, topicity and prostereoisomerism; conformational analysis of acyclic, cyclic and heterocyclic; dynamic stereochemistry.

1102434 Modern Organic Synthetic Reactions**3 (3-0-6)***Prerequisite:* 1102332

Modern organic synthetic reactions, emphasized on experimental planning and development of the methodology published in current journals; applications of reactions to research.

1102435 Nuclear Magnetic Resonance Spectroscopy for Natural Product Compounds**3 (3-0-6)***Prerequisite:* 1102311

Principles of NMR spectroscopy and spectral data analysis for identifying natural product compounds and organic compounds.

**1102436
1102461 Naturally Occurring Medicinal Products****3 (3-0-6)***Prerequisite:* None

Plant raw materials; crude extracts and herbal medicinal products; biochemistry and pharmacological effects of herbal medicinal products; manufacturing process to prepare herbal medicinal products; development of products.

- 1102462 Nutrition and Food Supplements 3 (3-0-6)**
Prerequisite: None
 Nutrition principles; nutritional applications of food; diets and biochemical values of food; requirement, deficiency, absorption of various nutritional significant substances including the major nutrients, vitamins and essential minerals.
- 1102463 Computational Chemistry 3 (3-0-6)**
Prerequisite: None
 Theoretical background on computational chemistry and molecular modelling, approximations, limitations and use of quantum chemistry and some molecular modelling programs, i.e. HMO, CNDO, *ab initio*, program on chemical equilibrium.
- 1102464 Industrial Chemistry 3 (3-0-6)**
Prerequisite: None
 Unit operations; automatic process control; materials for industrial chemistry; calculations in chemical process; examples of chemical industry processes; industrial water treatment; pollution control.
- 1102465 Special Problem in Applied Chemistry 3 (0-9-3)**
Prerequisite: 1102331
 Undergraduate research on current issues of applied chemistry under guidance of supervisor.
- 1102466 Topic of Current Interest 3 (3-0-6)**
Prerequisite: 1102331
 Discussion on current interesting topics in applied chemistry.
- 1102491 Seminar 1 (0-3-1)**
Prerequisite: None
 Seminar on theories, practices and application of current issues of chemistry.
- 1102492 Research Project 6 (0-40-12)**
Prerequisite: None
 Undergraduate research on current issues of chemistry under guidance of supervisor or preparing students for future careers.
- 1102495 Co-operative Education 6 (0-40-12)**
Prerequisite: None
 Student could be preparing to work as a training worker or a temporary employee at the provided training organisations; included government and non-government organisation, one semester according to student's major subject. After finish, students have to send and present academic report to the major's teachers. The evaluation criterias are based on the evaluation results from the advisor of co-operative education, the officer at the organisation and student's academic report.
- 1102496 Overseas Training 6 (0-40-12)**
Prerequisite: None
 Overseas training in organisations under university's supervision and evaluation.
- 1103100 Principles of Biology 3 (2-3-5)**
Prerequisite: None
 Origin of earth and living things; evolution; biodiversity; ecology; cell divisions; reproduction and heredity of microorganisms; plants and animals.
- 1103101 General Biology 1 3 (2-3-5)**
Prerequisite: None
 Origin and evolution of living things; reproduction and heredity; ecology.
- 1103102 General Biology 2 3 (2-3-5)**
Prerequisite: 1103101
 Microbiology; biology of plants and animals.

1103140 Fundamentals of Ecology**3 (3-0-6)***Prerequisite: None*

Holistic approach in ecology; interactions of plants, animals, humans and environments; ecosystems; adaptation to environments; resources utilization.

1103211 Microbiology**4 (3-3-7)***Prerequisite: 1103102*

Prokaryotic and eukaryotic microorganisms; cultivation; growth; metabolism, genetics and classification; interrelationship of other organisms; infections; industrial utilization; bioremediation; trends in microbiology.

1103222 Genetics**3 (2-3-5)***Prerequisite: 1103102*

Gene structure and function; mendelian genetics; mutations; recombinant DNA; genomics; non-mendelian genetics; sex linkage, human evolution; quantitative genetics.

1103231 Plant Physiology**3 (2-3-5)***Prerequisite: 1103102*

Structures of plant cells; water and nutrient transport; photosynthesis; respiration; growth and development, responses to stimulants.

1103311 Environmental Microbiology**3 (2-3-5)***Prerequisite: 1103211*

Relationships of microorganisms and environments; beneficial and hazardous microorganisms; biochemical processes of matter transportation; biodegradation, bioremediation.

1103312 Industrial Microbiology**3 (2-3-5)***Prerequisite: 1103211*

Commercial exploitation of microorganisms; production of chemical compounds of economic values; antibiotics; enzymes; amino acids; organic acids; trends and prospects.

1103313 Microbial Physiology**3 (2-3-5)***Prerequisite: 1103211*

Types and morphology of microorganisms; growth and growth factors; energy formation processes; metabolism; intercellular transport

1103321 Genetics Molecular**4 (3-3-7)***Prerequisite: 1102250 and 1103221*

Biosynthesis; structure and function of DNA, RNA and protein; gene action and expression; DNA manipulation.

1103322 Plant Genetics**3 (2-3-5)***Prerequisite: 1103221*

Fundamentals of genetics and their application for higher plants; probability theories; linkages; chromosome aberrations; polyploidy; intergeneric and interspecific gene transfer; tissue and cell culture; modern techniques for crop improvements; trends and prospects.

1103323 Microbial Genetics**3 (3-0-6)***Prerequisite: 1103211*

Molecular genetics of microorganisms; genetic engineering and applications; trends and prospects.

1103324 Plant Genetics and Evolution**3 (2-3-5)***Prerequisite: 1103222*

Structure, expression and manipulation of plant genomes based on classical and contemporary genetics; plant dynamic evolution from mutations, selections, migration and gene variation.

1103325 Microbial Genetics**3 (2-3-5)***Prerequisite: 1103211*

Molecular genetics of microorganisms; genetic engineering and applications; microbial genomics and proteomics; trends and prospects.

- 1103326 Molecular Biology** **3 (2-3-5)**
Prerequisite: 1103222 and 1102250
 Biosynthesis; structure and function DNA, RNA and protein; gene action and expression; DNA manipulation.
- 1103331 Plant Ecophysiology** **3 (2-3-5)**
Prerequisite: 1103102
 Physiological and ecological of plants; climate and vegetation pattern; plant, soil and water relations; radiation and energy equilibrium; photosynthesis; respiration; mineral and nutrition; plant growth; natural stresses; ecosystem productivity; current issues in ecophysiology and sustainable agriculture.
- 1103332 Plant Molecular Physiology** **3 (2-3-5)**
Prerequisite: 1103222
 Molecular biological aspects of plant physiology; structures of plant cells; water and nutrient transport; photosynthesis; respiration; growth and development; responses to stimulants.
- 1103341 Plant Ecology** **3 (2-3-5)**
Prerequisite: 1103102
 Plant community and population; environmental interactions; roles of human affecting plant ecosystems; biodiversity; problems and trends.
- 1103342 Ecology** **3 (2-3-5)**
Prerequisite: None
 Ecosystem and type of ecosystem; biodiversity; population dynamics; physical environment, life style and community interaction; food web, primary production and energy flow; nutrient cycling, succession and stability; global ecology; ecological management.
- 1103351 Plant Taxonomy** **3 (2-3-5)**
Prerequisite: 1103102
 History and development of plant taxonomy; classification; identification; nomenclature; collection and preservation of specimen
- 1103352 Plant Systematics** **3 (2-3-5)**
Prerequisite: 1103102
 Plant cells and tissue systems; external and internal structure of plants; plant development; history of plant taxonomy; plant classification; plant identification; plant nomenclature; molecular techniques for plant systematic.
- 1104100 Principles of Physics** **3 (2-3-5)**
Prerequisite: None
 Measurement; motion; force and motion; work and energy; temperature and heat; waves and wave properties; electrical and magnetic properties; atomic physics; nuclear physics.
- 1104101 General Physics 1** **3 (2-3-5)**
Prerequisite: None
 Motion and force; gravity and gravitational field; work and energy; rotational motions; simple harmonic motion; oscillation; sound; thermodynamic concepts.
- 1104102 General Physics 2** **3 (2-3-5)**
Prerequisite: 1104101
 Electricity and magnetism; electrical and magnetic properties of matters; alternating current; basic electronics; optics and optical devices; structure of atoms.
- 1105101 Introduction to Biotechnology** **1 (1-0-2)**
Prerequisite: None
 Background in various fields of biotechnology; historical background, application and career guidelines in biotechnology.

1105220 Introduction to Plant Tissue Culture 3 (2-3-5)*Prerequisite: None*

Theory; methodology and techniques of plant tissue culture; application and trends.

1105321 Plant Biotechnology 4 (3-3-7)*Prerequisite: 1105101*

Application of plant biotechnology in various aspects of life quality; foods and agriculture; pharmaceuticals; conservation of biodiversity; safety measures in laboratories and field experiments.

1105322 Algal Biotechnology 3 (2-3-5)*Prerequisite: 1105101*

Classification of algae; use of algae in agriculture; industry; aquaculture and industry; algal cultivation systems; commercial microalgae; waste treatment; roles of algae on the environment; current genetic engineering of algae.

1105323 Gene Technology 1 3 (2-3-5)*Prerequisite: 1103222 and 1103326*

Introduction to genetic engineering; training in the basic techniques of gene manipulation; DNA diagnosis.

1105324 Gene Technology 2 3 (2-3-5)*Prerequisite: 1105323*

Training in the technique of heterologous gene expression in both prokaryotic and eukaryotic systems; protein engineering; current issues and trends.

1105325 Plant Biotechnology 3 (2-3-5)*Prerequisite: 1105101*

Application of plant biotechnology in various aspects of life quality; foods and agriculture; pharmaceuticals; conservation of biodiversity; safety measures in laboratories and field experiments.

1105341 Medical and Pharmaceutical Biotechnology 2 (2-0-4)*Prerequisite: 1105101*

Gene therapy; antisense technology; tissue engineering; antibody engineering; biopharmaceutical development and production; enzyme and hormone therapy; forensic dna technology; trends and prospects.

1105342 Medical and Pharmaceutical Biotechnology 3 (2-3-5)*Prerequisite: 1105101*

Gene therapy; antisense technology; tissue engineering; antibody engineering; biopharmaceutical development and production; enzyme and hormone therapy; forensic dna technology; trends and prospects.

1105351 Bioprocess Engineering 4 (3-3-7)*Prerequisite: 1102223*

Suspension and immobilized cell cultures; mixed cultures; bioreactors; recovery and purification of products; fluid mechanics; heat and mass transfer; kinetics and stoichiometry of microbial growth in relation to productivity; suspension and immobilized cell culture; mixed culture; bioreactors; down stream processes.

1105352 Industrial Biotechnology 3 (2-3-5)*Prerequisite: 1105351 or 1105353*

Commercial production of microorganisms; biotransformation; cell immobilization; applications in industry, pharmaceuticals and environments; current issues and trends.

1105353 Bioprocess Engineering 3 (2-3-5)*Prerequisite: 1102223*

Enzyme kinetics; microbial growth kinetics; mass and energy balance; heat and mass transfer; fluid flow and mixing and unit operation.

- 1105361 Plant Biochemistry** **3 (2-3-5)**
Prerequisite: 1102250
 Molecular structures of plant cells; metabolisms of biomolecules; photosynthesis; nitrogen fixation; secondary metabolism; gene action and expression; genetic modification technology in plants.
- 1105362 Food Biotechnology** **3 (2-3-5)**
Prerequisite: 1103102
 Impact of biotechnology of food production; genetic tools as applied to food biotechnology; improvement of microbes used in food production by modern biotechnological approaches; biotechnology and food preservation; current issues.
- 1105371 Immunology** **3 (2-3-5)**
Prerequisite: 1103102
 Cellular immune response; diagnostic immunology; genetic engineering and anti-microbial vaccines.
- 1105396 Special Project** **1 (0-3-1)**
Prerequisite: None
 Laboratory or field experimentation under guidance of supervisor.
- 1105397 Industrial Visit** **1 (0-3-1)**
Prerequisite: None
 Study tour to industrial factories or research institutes of biotechnology; report, presentation and discussion of visits.
- 1105400 Biotechnology Business** **1 (1-0-2)**
Prerequisite: None
 Business planning of biotechnology; innovation of technology; marketing; management; finance; intellectual property and patents; competition; case studies; pilot business simulation.
- 1105401 Bioinformatics** **1 (1-0-2)**
Prerequisite: 1105101
 Data search on public databases; genome; DNA and protein sequences; protein structures; applications and trends.
- 1105402 Introduction to Bioinformatics** **1 (0-3-1)**
Prerequisite: None
 Data search of public databases; genome; DNA and protein sequences; protein structures; applications and trends.
- 1105403 General Entomology** **3 (2-1-0)**
Prerequisite: 1103101 or 11103100
 Consider in the introduction of biology and evolution of insects and some relatives, including the basic structures and functions of their external and internal morphology, development, ecology, life history, behaviors, and their classification and identification, when desirable. A brief introduction to economically importance benefits, medically importance and destructive insects, insects past management, and molecular entomology and application are also included.
- 1105411 Economic Botany** **3 (2-3-5)**
Prerequisite: 1103231
 Economic plants as foods, medicines, clothes, ornaments, cosmetics, energy, fertilizers and bio-compounds; emphasis on economic plants of northern region; application of plant biotechnology; problems and prospects.
- 1105412 Medicinal Plants** **3 (2-3-5)**
Prerequisite: None
 Taxonomy; botanical characteristics; sources and distributions; phytochemistry; pharmacology; clinical trials; emphasis on medicinal plants of northern region; problems and prospects of traditional medicines.

- 1105413 Orchidology** **3 (2-3-5)**
Prerequisite: None
 Types and characteristics; cultivation; nursing methods; propagation; tissue cultures; cultivar's improvement; commercial production; problems and trends.
- 1105421 Plant Production Technology** **3 (2-3-5)**
Prerequisite: 1103231
 Conventional production; environmentally controlled production; hydroponics; soil-less cultivation; organic farming; problems and prospects.
- 1105431 Microbial Technology** **3 (2-3-5)**
Prerequisite: 1103211
 Industrial microorganisms; strain improvements; emphasis on applications in agriculture, industry, medicine and environment; field trips; current issues and prospects.
- 1105432 Yeast Biotechnology** **3 (2-3-5)**
Prerequisite: 1103211
 Physiology; genetics; applications in foods, beverages and pharmaceutical products; beneficial and harmful effects; current issues and prospects.
- 1105451 Immobilised Biocatalyst** **3 (2-3-5)**
Prerequisite: 1102250
 Industrial enzymes; enzyme and cell immobilization; properties and stability of immobilized biocatalysts; recombinant enzymes; applications and trends.
- 1105461 Plant Secondary Metabolites** **3 (2-3-5)**
Prerequisite: 1103332
 Types and roles; synthesis pathway; extraction; purification; structural analysis; production of drugs and pharmaceuticals; genetic engineering techniques; current issues and trends.
- 1105491 Special Problem** **3 (0-9-3)**
Prerequisite: None
 Undergraduate research on current issues of bioscience under guidance of supervisor.
- 1105492 Research Project** **6 (0-40-12)**
Prerequisite: None
 Undergraduate research on current issues of bioscience under guidance of supervisor or preparing students for future careers.
- 1105495 Co-operative Education** **6 (0-40-12)**
Prerequisite: None
 Student could be preparing to work as a training worker or a temporary employee at the provided training organisations; included government and non-government organisation, one semester according to student's major subject. After finish, students have to send and present academic report to the major's teachers. The evaluation criterias are based on the evaluation results from the advisor of co-operative education, the officer at the organisation and student's academic report.
- 1105496 Overseas Training** **6 (0-40-12)**
Prerequisite: None
 Overseas training in organizations under university's supervision and evaluation.
- 1105497 Seminar** **1 (0-3-1)**
Prerequisite: None
 Seminar on theories, practices and application of current issues of biotechnology.
- 1106100 Mathematics for Life** **3 (3-0-6)**
Prerequisite: None
 Mathematical calculation for everyday life; statistical methods for decision makings.

- 1106103 Mathematics 1** **3 (3-0-6)**
Prerequisite: None
 Functions; limit; continuity; derivatives and applications; integration; application of definite integral; introduction to differential equation; linear equations; matrices.
- 1106104 Mathematics 2** **3 (3-0-6)**
Prerequisite: 1106103
 Sequences and series; vectors and coordinate geometry in three dimensional space; multiple integrals; partial derivatives.
- 1106111 Mathematical Logic and Proof Techniques** **2 (2-0-4)**
Prerequisite: None
 Sets and relationship; logic of proposition and predicate; mathematical reasoning; logical reasoning; proof by techniques such as contradiction, induction and deduction.
- 1106201 Mathematics 3** **3 (3-0-6)**
Prerequisite: 1106104
 Function of vector; calculus of vector; special functions; fourier series; complex numbers.
- 1106211 Discrete Mathematics** **3 (3-0-6)**
Prerequisite: 1106104
 Logic; sets; functions; contradiction and predicate; boolean algebra; graphic theory; matrices; proof by techniques; combinatorics; probability; random numbers.
- 1106221 Linear Algebra** **3 (3-0-6)**
Prerequisite: 1106104
 Linear equations and matrices; analytical and numerical solution of algebraic equation; least square methods; eigenvalues; determinants; orthogonalization; three dimensional vectors; linear transformation.
- 1106281 Probability and Statistics** **3 (3-0-6)**
Prerequisite: None
 Descriptive statistics; probability and probability distribution; samples distribution; estimation; test of hypothesis; analysis of variance; regression and correlation; chi-square test; nonparametric statistics.
- 1106282 Statistics and Experimental Design** **3 (3-0-6)**
Prerequisite: None
 Description statistics; probability; analysis of variance; regression and correlation; chi-square test experimental designs; data analysis; computer software for experimental planning and result analysis.
- 1106331 Numerical Methods** **3 (3-0-6)**
Prerequisite: 1106104
 Numerical procedure and analysis; iterative methods for finding solutions for science, engineering and mathematics; computer application for real numbers, error propagations; numerical integration methods; ordinary differential equations.
- 1108231 Practical Ceramic** **3 (1-4-3)**
Prerequisite: None
 Introduction to ceramics and their classification; selection and preparation of raw materials; forming techniques, e.g. free forming, throwing, coiling, and slip casting; classification of glazes; glaze formulation and glazing techniques; firing and decoration.
- 1108341 Polymer Synthesis and Characterization** **3 (3-0-6)**
Prerequisite: None
 Molecular structure and classification of polymers; average molecular mass and molecular mass distribution; polymerisation reactions of polymers and copolymers; practical methods of polymerisation; stereo-chemistry of polymers.
- 1108342 Polymer Synthesis and Characterization Laboratory** **1 (0-3-1)**
Prerequisite: None
 Methods of polymerisation; study of kinetics and mechanisms involved; analytical methods for studying polymer properties such as molecular mass and molar mass distribution determination, thermal analysis techniques and also chemical properties.

1108343 Polymer Degradation and Stabilization**3 (3-0-6)***Prerequisite: None*

Mechanisms of polymer degradation and stabilization; factors which cause degradation; design and synthesis of degradable polymers.

1108441 Natural Polymers**3 (3-0-6)***Prerequisite: None*

Types, compositions and structures of natural polymers; properties and applications; modification of natural polymers.

1108442 Structure-Property Relationships in Polymers**3 (3-0-6)***Prerequisite: None*

Structure-property relationships in polymers; polymer morphology; viscoelasticity; mechanical, electrical, optical and thermal properties.

1108443 Polymer Blends and Composites**3 (3-0-6)***Prerequisite: None*

Fundamentals of polymer blends and composites; composition, mechanical properties, manufacturing and application, compatibility and morphology of polymer blends and composites.

1108444 Modern Trends in Polymer Synthesis**3 (2-2-5)***Prerequisite: None*

Novel synthetic methods of polymers with controlled molecular architectures; current research topics.

1108445 Polymer in Solution**3 (3-0-6)***Prerequisite: None*

Thermodynamics of polymers in solutions, viscosity; phase separation; Flory-Huggins theory; rheology.

1109311 Soil, Nutrient and Water Management for Crop Production**3 (2-3-5)***Prerequisite: 1103102*

Principles of soil and water related to crop production. Physical and chemical interactions affecting the soil; soil-water relation; origin of soil and water resources in thailand; hydrological cycle and climate; water management in irrigation; saline soil management for agricultural purposes; water and soil conservation.

1109321 Disease and Pest Management for Crop Production**3 (2-3-5)***Prerequisite: 1103211*

Fundamentals of plant diseases and pests; types and identification; beneficial and harmful insects; plant disease identification; crop pests life cycle; weed control; economic importance of crop pests and diseases in thailand; integrated pest and disease management.

1109331 Plant Breeding 1**3 (2-3-5)***Prerequisite: 1103222*

Scope and importance of gene functions in plant breeding; quantitative inheritance evaluation; role of inheritance ratio in selection; pollinated control mechanisms and plant breeding in self-pollinated and cross-pollinated crops.

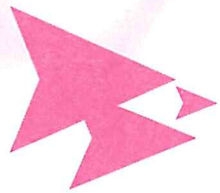
1109341 Economic Crop Production 1**3 (2-3-5)***Prerequisite: 1103102*

Production of economic plants for human consumption, animal food, fiber, energy production and industrial applications; production factors; crop harvests; transportations; storing; crop processing; marketing management.

1109342 Economic Crop Production 2**3 (2-3-5)***Prerequisite: 1109341*

Production principles in horticultural and ornamental crops for economic purposes; production factors; crop harvesting; transportations; storage; crop processing; marketing management.

- 1109431 Plant Breeding 2** **3 (2-3-5)**
Prerequisite: 1109331
 Cellular genetic manipulations in plant breeding; mutation and biotechnology; breeding techniques for disease, insect, and stress resistances; field breeding methodology; plant production; preservation; commercial aspects and patents; case study in economic crop breeding.
- 1109451 Seed Technology and Production** **3 (2-3-5)**
Prerequisite: 1103102
 Seed ecology; structure, germination, dormancy, vigor and enhancements; principles of storage; general seed and hybrid seed; production practices; seed pathology and pathological testing; seed certification; seed legislation.
- 1110301 Mycology** **3 (2-3-5)**
Prerequisite: 1103211
 Cellular, morphological, physiological taxonomical and ecological perspectives in fungal biology; the impact of fungi both on natural ecosystems and human civilization.
- 1110302 Virology** **3 (2-3-5)**
Prerequisite: 1103211
 Structure, classification, genetics, pathogenesis, epidemiology, and evolution of viruses; diagnosis and control of viral infection and diseases; current issues.
- 1110351 Bacterial Diversity and Systematics** **3 (2-3-5)**
Prerequisite: 1103211
 Isolation; classification; nomenclature; identification; preservation of bacterial cultures; ecological diversity; current issues.
- 1110362 Agricultural Microbiology** **3 (2-3-5)**
Prerequisite: 1103211
 Microorganisms of agricultural importance; plant-microbial interactions; plant pathogens and biopesticides.



School of Information Technology

- **Management of Information Technology**
- **Computer Science**
- **Software Engineering**
- **Multimedia Technology and Animation**
- **Computer Engineering**
- **Information and Communication
Engineering**

School of Information Technology

Mae Fah Luang University

The School of Information Technology's primary objective is to produce high-quality students who meet international standards. With that objective in mind, our School will develop appropriate curricula in response to the requirements of businesses, industries, and society in general for both the present and the future. Moreover, we will foster research and development by collaborating with other organizations both national and international in order to create new knowledge and new innovations for the realization of our student's and faculty's potential, and to prepare our students to become more competitive in Thailand and elsewhere in the world.

Bachelor of Science in Management of Information Technology

The program is designed to equip graduates with the skills and attributes required to be effective and efficient information technology management professionals. The program has a core of information technology and business subjects complemented with a selection from a wide range of subjects that includes advanced information technology, modern business concepts, and analysis models. The courses also cover concepts, application and practical skills.

Bachelor of Science in Computer Science

This program offers students experience to analyze, manage, and solve problems concerning computer systems, maintaining the balance between theory and practice. Graduates will be able to design and develop computer software, hardware, and networks.

Bachelor of Science in Software Engineering

This program's main objective is to develop students' ability in software process creation and refinement, which includes producing and analyzing software that solves problems in organizations. The program equally emphasizes graduates' ethics and responsibility to the society.

Bachelor of Science in Multimedia Technology and Animation

Through this program, graduates will acquire expertise in animation and multimedia applications, in addition to skills in software development and design of toolsets for information technology and computer games.

Bachelor of Engineering in Computer Engineering

This program focuses on hardware, circuitry, networks and software design and maintenance, combining knowledge in the engineering discipline to enable students to acquire skills in producing better designs and also problem-solving abilities.

Bachelor of Engineering in Information and Communication Engineering

This program aims to provide students with theoretical knowledge and practical skills in information technology and telecommunications. Graduates will be skilled in designing, developing, and planning network systems and applications for telecommunications and information technology.



Bachelor of Science Program in Management of Information Technology B.Sc.(Management of Information Technology)

Total Credit

1. General Education Courses

2. Specific Requirement Courses

2.1 Core Courses

2.2 Major Required Courses

2.3 Major Elective Courses

3. Free Elective Courses

130 Credits

31 Credits

93 Credits

35 Credits

46 Credits

12 Credits

6 Credits

1. General Education Courses

31 Credits

Cr(Le-Pr-SS)*

1001101	Man and Society	2 (2-0-4)
1001102	Environment and Development	2 (2-0-4)
1001103	Thai Language Skills	2 (2-0-4)
1001111	Cultural Studies	2 (2-0-4)
1001112	Logical Thinking	2 (1-2-3)
1001121	Recreation and Sport for Well-Being	1 (0-2-1)
1001122	Personal and Community Health	2 (2-0-4)
1001131	World Community	2 (2-0-4)
1006217	English for Communication	3 (2-2-5)
1006218	Academic Reading and Writing	3 (2-2-5)
1006301	College Writing	2 (2-0-4)
1006302	Academic Oral Skills	2 (2-0-4)
1006303	English for Professional Purposes	1 (0-2-1)
1006304	English for Professional Success	1 (0-2-1)
1203141	Organization and Management	2 (2-0-4)
1301103	Information Technology Concepts	2 (2-0-4)

2. Specific Requirement Courses

93 Credits

2.1 Core Courses

35 Credits

Cr(Le-Pr-SS)*

1102100	Principles of Chemistry	3 (2-3-5)
1104100	Principles of Physics	3 (2-3-5)
1106103	Mathematics 1	3 (3-0-6)
1106104	Mathematics 2	3 (3-0-6)
1106111	Mathematical Logic and Proof Techniques	2 (2-0-4)
1106211	Discrete Mathematics	3 (3-0-6)
1106281	Probability and Statistics	3 (3-0-6)
1201111	Principles of Accounting	3 (3-0-6)
1202114	Introduction to Economics	3 (3-0-6)
1203211	Principles of Business and Finance	3 (3-0-6)
1302212	Computer Programming	3 (2-2-5)
1302311	Object- Oriented Programming	3 (2-2-5)

2.2 Major Required Courses

46 Credits

Cr(Le-Pr-SS)*

1202241	International Economics	3 (3-0-6)
1203371	Business System Design	3 (3-0-6)
1301211	Information Technology Marketing Management	3 (3-0-6)
1301221	System Analysis and Design	3 (3-0-6)
1301312	Industrial Management	3 (3-0-6)
1301342	Management Information Systems	3 (3-0-6)
1301344	Information Technology Project Management	3 (3-0-6)
1301353	Data Communication and Network	3 (2-2-5)
1301361	Business Modeling and Simulation	3 (3-0-6)
1301382	Multimedia Technology	3 (2-2-5)

1301383	Electronic Commerce	3 (3-0-6)
1301391	Senior Project 1	1 (0-3-1)
1301472	Laws and Ethics for Information Technology	3 (3-0-6)
1301490	Co-operative Education	3 (0-35-6)
1301491	Seminar	1 (0-3-1)
1301492	Senior Project 2	2 (0-6-2)
1302333	Database System	3 (2-2-5)

2.3 Major Elective Courses

Select from the following		12 Credits Cr(Le-Pr-SS)*
1301214	Web Design	3 (3-0-6)
1301281	Human and Information Technology	3 (3-0-6)
1301331	Information Retrieval	3 (2-2-5)
1301343	Decision Support Systems	3 (3-0-6)
1301345	Internet Marketing	3 (3-0-6)
1301346	Selected Topics in Information Technology 1	3 (3-0-6)
1301347	Mobile Programming	3 (2-2-5)
1301352	Information Security	3 (3-0-6)
1301447	Selected Topics in Information Technology 2	3 (3-0-6)
1302241	Operating Systems	3 (3-0-6)
1302324	Software Engineering	3 (3-0-6)
1302325	Advanced Database Systems	3 (2-2-5)
1302340	Computer Networks	3 (2-2-5)
1302361	Introduction to Artificial Intelligence	3 (3-0-6)
1302383	Web Programming	3 (2-2-5)
1302384	Computer Graphics	3 (2-2-5)
1302422	Advanced Software Engineering	3 (3-0-6)

3. Free Elective Courses not less than

		6 Credits Cr(Le-Pr-SS)*
xxxxxxx	Free Elective	3 (3-0-6)
xxxxxxx	Free Elective	3 (3-0-6)

At least six credits of free electives can be chosen from any course offered by Mae Fah Luang University.

* Cr : Credit
Le : Lecture
Pr : Practice
SS : Self Study



Bachelor of Science Program in Computer Science B.Sc. (Computer Science)

Total Credit	136 Credits
1. General Education Courses	35 Credits
2. Specific Requirement Courses	95 Credits
2.1 Core Courses	22 Credits
2.2 Major Required Courses	61 Credits
2.3 Major Elective Courses	12 Credits
3. Free Elective Courses	6 Credits

1. General Education Courses

	35 Credits
	Cr(Le-Pr-SS)*
1001101 Man and Society	2 (2-0-4)
1001112 Logical Thinking	2 (1-2-3)
1001102 Environment and Development	2 (2-0-4)
1001111 Cultural Studies	2 (2-0-4)
1001131 World Community	2 (2-0-4)
1203141 Organization and Management	2 (2-0-4)
1804104 Personal and Community Health	2 (2-0-4)
1001103 Thai Language Skills	2 (2-0-4)
1006217 English for Communication	3 (2-2-5)
1006218 Academic Reading and Writing	3 (2-2-5)
1006301 College Writing	2 (2-0-4)
1006302 Academic Oral Skills	2 (2-0-4)
1006303 English for Professional Purposes	1 (0-2-1)
1006304 English for Professional Success	1 (0-2-1)
1102100 Principles of Chemistry	3 (2-3-5)
1103100 Principles of Biology	3 (2-3-5)
1001121 Recreation and Sport for Well-Being	1 (0-2-1)

2. Specific Requirement Courses

	95 Credits
2.1 Core Courses	22 Credits
	Cr(Le-Pr-SS)*
1106103 Mathematics 1	3 (3-0-6)
1106104 Mathematics 2	3 (3-0-6)
1106111 Mathematical Logic and Proof Techniques	2 (2-0-4)
1106211 Discrete Mathematics	3 (3-0-6)
1106281 Probability and Statistics	3 (3-0-6)
1106332 Numerical Methods	3 (2-3-5)
1203132 Principles of Business Management	3 (3-0-6)
1301103 Information Technology Concepts	2 (2-0-4)

2.2 Major Required Courses

	61 Credits
	Cr(Le-Pr-SS)*
1301221 System Analysis and Design	3 (3-0-6)
1301281 Human and Information Technology	3 (3-0-6)
1301331 Information Retrieval	3 (2-2-5)
1301353 Data Communication and Network	3 (2-2-5)
1302202 Advanced Computer Programming	3 (2-2-5)
1302212 Computer Programming	3 (2-2-5)
1302241 Operating Systems	3 (3-0-6)
1302251 Data Structures and Algorithms	3 (3-0-6)
1302271 Computer Architecture	3 (3-0-6)
1302301 Algorithms Analysis and Design	3 (3-0-6)
1302311 Object- Oriented Programming	3 (2-2-5)

1302321	Object- Oriented Design and Analysis	3 (2-2-5)
1302324	Software Engineering	3 (3-0-6)
1302333	Database System	3 (2-2-5)
1302391	Senior Project 1	1 (0-3-1)
1302461	Theory of Computation	3 (3-0-6)
1302491	Seminar	1 (0-3-1)
1302492	Senior Project 2	2 (0-6-2)
1302495	Co-operative Education	9 (0-27-0)
1600104	Laws and Ethics for Information Technology	3 (3-0-6)

2.3 Major Elective Courses

Select from the following

12 Credits
Cr(Le-Pr-SS)*

1301214	Web Design	3 (3-0-6)
1301342	Management Information Systems	3 (3-0-6)
1301344	Information Technology Project Management	3 (3-0-6)
1301345	Internet Marketing	3 (3-0-6)
1301347	Mobile Programming	3 (2-2-5)
1301382	Multimedia Technology	3 (2-2-5)
1301383	Electronic Commerce	3 (3-0-6)
1302305	Network Programming	3 (2-2-5)
1302322	Compiler Design and Programming Languages	3 (2-2-5)
1302325	Advance Database Systems	3 (2-2-5)
1302340	Computer Networks	3 (2-2-5)
1302361	Introduction to Artificial Intelligence	3 (3-0-6)
1302383	Web Programming	3 (2-2-5)
1302384	Computer Graphics	3 (2-2-5)
1302392	Selected Topics in Computer Science 1	3 (3-0-6)
1302422	Advance Software Engineering	3 (3-0-6)
1302494	Selected Topics in Computer Science 2	3 (3-0-6)
1305203	Software Process and Quality Assurance	3 (3-0-6)
1305207	Software Validation and Verification	3 (3-0-6)
1305402	Data Warehousing and Data Mining	3 (3-0-6)
1306211	Computer Game Concept Design Basic	3 (2-2-5)
1501344	Network System Security	3 (3-0-6)
1501363	Pattern Recognition and Vision	3 (3-0-6)
1501364	Image Processing	3 (3-0-6)
1501366	Neural Networks	3 (3-0-6)
1501367	Natural Language Processing	3 (3-0-6)
1501373	Advanced Computer Architecture	3 (3-0-6)
1501381	Computer Aided Design and Manufacturing	3 (2-2-5)

3. Free Elective Courses not less than

6 Credits
Cr(Le-Pr-SS)*

xxxxxxx	Free Elective
xxxxxxx	Free Elective

At least six credits of free electives can be chosen from any course offered by Mae Fah Luang University.

* Cr : Credit
Le : Lecture
Pr : Practice
SS : Self Study



Bachelor of Science Program in Software Engineering B.Sc. (Software Engineering)

Total Credit	134 Credits
1. General Education Courses	32 Credits
2. Specific Required Courses	96 Credits
2.1 Core Courses	36 Credits
2.2 Major Required Courses	48 Credits
2.3 Major Elective Courses	12 Credits
3. Free Elective Courses	6 Credits

1. General Education Courses	32 Credits
	Cr(Le-Pr-SS)*
1001101 Man and Society	2 (2-0-4)
1001102 Environment and Development	2 (2-0-4)
1001103 Thai Language Skills	2 (2-0-4)
1001111 Cultural Studies	2 (2-0-4)
1001112 Logical Thinking	2 (1-2-3)
1001121 Recreation and Sport for Well-Being	1 (0-2-1)
1001131 World Community	2 (2-0-4)
1001141 General Psychology	3 (3-0-6)
1006217 English for Communication	3 (2-2-5)
1006218 Academic Reading and Writing	3 (2-2-5)
1006301 College Writing	2 (2-0-4)
1006302 Academic Oral Skills	2 (2-0-4)
1006303 English for Professional Purposes	1 (0-2-1)
1006304 English for Professional Success	1 (0-2-1)
1203141 Organization and Management	2 (2-0-6)
1301103 Information Technology Concepts	2 (2-0-6)

2. Specific Requirement Courses	96 Credits
2.1 Core Courses	36 Credits
	Cr(Le-Pr-SS)*
1104100 Principles of Physics	3 (2-3-5)
1106103 Mathematics 1	3 (3-0-6)
1106281 Probability and Statistics	3 (3-0-6)
1202114 Introduction to Economics	3 (3-0-6)
1301214 Web Design	3 (3-0-6)
1301342 Management Information Systems	3 (3-0-6)
1302212 Computer Programming	3 (2-2-5)
1302241 Operating Systems	3 (3-0-6)
1302251 Data Structures and Algorithms	3 (3-0-6)
1302311 Object- Oriented Programming	3 (2-2-5)
1302333 Database System	3 (2-2-5)
1305101 Introduction to Software Engineering	3 (3-0-6)

2.2 Major Requirement Courses	48 Credits
	Cr(Le-Pr-SS)*
1301281 Human and Information Technology	3 (3-0-6)
1302321 Object- Oriented Design and Analysis	3 (2-2-5)
1302325 Advanced Database Systems	3 (2-2-5)
1305201 Software Architecture	3 (3-0-6)
1305202 Software Requirement Specification and Management	3 (2-2-5)
1305203 Software Process and Quality Assurance	3 (3-0-6)
1305204 Software Construction and Evolution	3 (3-0-6)
1305205 Software Configuration Management	3 (3-0-6)
1305206 Software Project and Risk Management	3 (3-0-6)
1305207 Software Validation and Verification	3 (3-0-6)
1305208 Enterprise Application Architecture	2 (2-0-4)

1305391	Senior Project 1	1 (0-3-1)
1305392	Seminar in Software Engineering	1 (0-3-1)
1305491	Senior Project 2	2 (0-6-2)
1305492	Software Engineering Case Studies	3 (3-0-6)
1305495	Co-operative Education	6 (0-40-12)
1600104	Laws and Ethics for Information Technology	3 (3-0-6)

2.3 Major Elective Courses

Select from the following		12 Credits Cr(Le-Pr-SS)*
1301343	Decision Support Systems	3 (3-0-6)
1301347	Mobile Programming	3 (2-2-5)
1301353	Data Communication and Network	3 (2-2-5)
1301382	Multimedia Technology	3 (2-2-5)
1302343	Distributed Systems	3 (3-0-6)
1302361	Introduction to Artificial Intelligence	3 (3-0-6)
1305401	Database Application Development	3 (3-0-6)
1305402	Data Warehousing and Data Mining	3 (3-0-6)
1306210	Computer Graphics and Design	3 (2-2-5)
1306211	Computer Game Concept Design	3 (2-2-5)
1501344	Network System Security	3 (3-0-6)
1502333	Wireless Communication	3 (3-0-6)

3. Free Elective Courses not less than

		6 Credits Cr(Le-Pr-SS)*
xxxxxxx	Free Elective	3 (3-0-6)
xxxxxxx	Free Elective	3 (3-0-6)

At least six credits of free electives can be chosen from any course offered by Mae Fah Luang University.

* Cr : Credit
Le : Lecture
Pr : Practice
SS : Self Study



Bachelor of Science Program in Multimedia Technology and Animation

B.Sc.(Multimedia Technology and Animation)

Total Credit	132 Credits
1. General Education Courses	32 Credits
2. Specific Requirement Courses	94 Credits
2.1 Core Courses	33 Credits
2.2 Major Required Courses	49 Credits
2.3 Major Elective Courses	12 Credits
3. Free Elective Courses	6 Credits

1. General Education Courses

32 Credits

Cr(Le-Pr-SS)*

1001101	Man and Society	2 (2-0-4)
1001102	Environment and Development	2 (2-0-4)
1001103	Thai Language Skills	2 (2-0-4)
1001111	Cultural Studies	2 (2-0-4)
1001112	Logical Thinking	2 (1-2-3)
1001121	Recreation and Sport for Well-Being	1 (0-2-1)
1001131	World Community	2 (2-0-4)
1001141	General Psychology	3 (3-0-6)
1006217	English for Communication	3 (2-2-5)
1006218	Academic Reading and Writing	3 (2-2-5)
1006301	College Writing	2 (2-0-4)
1006302	Academic Oral Skills	2 (2-0-4)
1006303	English for Professional Purposes	1 (0-2-1)
1006304	English for Professional Success	1 (0-2-1)
1203141	Organization and Management	2 (2-0-4)
1301103	Information Technology Concepts	2 (2-0-4)

2. Specific Requirement Courses

94 Credits

2.1 Core Courses

33 Credits

Cr(Le-Pr-SS)*

1104100	Principles of Physics	3 (2-3-5)
1106103	Mathematics 1	3 (3-0-6)
1106104	Mathematics 2	3 (3-0-6)
1301382	Multimedia Technology	3 (2-2-5)
1302212	Computer Programming	3 (2-2-5)
1302311	Object- Oriented Programming	3 (2-2-5)
1306201	Composition Art	3 (2-2-5)
1306202	Basic Drawing	3 (1-6-5)
1306203	History of Art and Design	3 (3-0-6)
1306204	Film and Video Production	3 (3-0-6)
1306205	Character Design and Animation Basic	3 (2-2-5)

2.2 Major Requirement Courses

49 Credits

Cr(Le-Pr-SS)*

1301214	Web Design	3 (3-0-6)
1301221	System Analysis and Design	3 (3-0-6)
1301281	Human and Information Technology	3 (3-0-6)
1301344	Information Technology Project Management	3 (3-0-6)
1301347	Mobile Programming	3 (2-2-5)
1302384	Computer Graphics	3 (2-2-5)
1306206	2D Design and Animation	3 (2-2-5)
1306207	3D Design and Animation	3 (2-2-5)
1306208	Script Writing and Storyboarding	3 (2-2-5)
1306209	Basic Texturing, Lighting and Rendering	3 (2-2-5)

1306210	Computer Graphics and Design	3 (2-2-5)
1306211	Computer Game Concept Design	3 (2-2-5)
1306391	Senior Project 1	1 (0-3-1)
1306491	Senior Project 2	2 (0-6-2)
1306492	Seminar	1 (0-3-1)
1306495	Co-operative Education	6 (0-40-12)
1600104	Laws and Ethics for Information Technology	3 (3-0-6)

2.3 Major Elective Courses

Select from the following		12 Credits Cr(Le-Pr-SS)*
1301211	Information Technology Marketing Management	3 (3-0-6)
1301331	Information Retrieval	3 (2-2-5)
1301342	Management Information Systems	3 (3-0-6)
1301345	Internet Marketing	3 (3-0-6)
1301353	Data Communication and Network	3 (2-2-5)
1301383	Electronic Commerce	3 (3-0-6)
1302241	Operating Systems	3 (3-0-6)
1302251	Data Structure and Algorithms	3 (3-0-6)
1302271	Computer Architecture	3 (3-0-6)
1302333	Database System	3 (2-2-5)
1302340	Computer Networks	3 (2-2-5)
1302361	Introduction to Artificial Intelligence	3 (3-0-6)
1302383	Web Programming	3 (2-2-5)
1306401	Digital Video and Audio Production	3 (3-0-6)
1306402	Advanced 3D Animation	3 (2-2-5)
1306403	Digital Video Editing and Composing	3 (2-2-5)
1306404	Sound Foley	3 (2-2-5)
1306405	Advanced Lighting and Rendering	3 (2-2-5)
1306406	Dynamic and Visual FX	3 (2-2-5)
1306407	Advanced Computer Graphics and Design	3 (2-2-5)
1306408	Interactive Design	3 (2-2-5)
1306409	Multimedia Design	3 (2-2-5)
1306410	Advanced Game Design and Production	3 (2-2-5)
1306411	Computer Simulation	3 (2-2-5)
1306412	Virtual Reality	3 (2-2-5)
1306413	Advanced Game Programming	3 (2-2-5)
1306414	Game Artificial Intelligent Concepts	3 (3-0-6)
1306415	Selected Topics in Multimedia and Animation	3 (2-2-5)
1501364	Image Processing	3 (3-0-6)

3. Free Elective Courses not less than

		6 Credits Cr(Le-Pr-SS)*
xxxxxxx	Free Elective	3 (3-0-6)
xxxxxxx	Free Elective	3 (3-0-6)

At least six credits of free electives can be chosen from any course offered by Mae Fah Luang University.

* Cr : Credit
Le : Lecture
Pr : Practice
SS : Self Study



Bachelor of Engineering Program in Computer Engineering B.Eng.(Computer Engineering)

Total Credit	133 Credits
1.General Education Courses	30 Credits
2.Specific Requirement Courses	97 Credits
2.1 Core Courses	21 Credits
2.2 Major Required Courses	67 Credits
2.3 Major Elective Courses	9 Credits
3. Free Elective Courses	6 Credits

1. General Education Courses

	30 Credits
	Cr(Le-Pr-SS)*
1001101 Man and Society	2 (2-0-4)
1001103 Thai Language Skills	2 (2-0-4)
1001112 Logical Thinking	2 (1-2-3)
1001121 Recreation and Sport for Well-Being	1 (0-2-1)
1006217 English for Communication	3 (2-2-5)
1006218 Academic Reading and Writing	3 (2-2-5)
1006301 College Writing	2 (2-0-4)
1006302 Academic Oral Skills	2 (2-0-4)
1006303 English for Professional Purposes	1 (0-2-1)
1006304 English for Professional Success	1 (0-2-1)
1102100 Principles of Chemistry	3 (2-3-5)
1202114 Introduction to Economics	3 (3-0-6)
1203141 Organization and Management	2 (2-0-4)
1601101 Introduction to Legal Principles	3 (3-0-6)

2.Specific Requirement Courses

2.1Core Courses	97 Credits
	21 Credits
	Cr(Le-Pr-SS)*
1104100 Principles of Physics	3 (2-3-5)
1106103 Mathematics 1	3 (3-0-6)
1106104 Mathematics 2	3 (3-0-6)
1106201 Mathematics 3	3 (3-0-6)
1106211 Discrete Mathematics	3 (3-0-6)
1106281 Probability and Statistics	3 (3-0-6)
1106331 Numerical Methods	3 (3-0-6)
1401251 Engineering Drawing	1 (0-3-1)
1501105 Electric Circuits and Electronics Laboratory	1 (0-3-1)
1501106 Digital and Computer Systems Laboratory	1 (0-3-1)

2.2 Major Required Courses

	67 Credits
	Cr(Le-Pr-SS)*
1301221 System Analysis and Design	3 (3-0-6)
1301353 Data Communication and Network	3 (2-2-5)
1302212 Computer Programming	3 (2-2-5)
1302241 Operating Systems	3 (3-0-6)
1302251 Data Structures and Algorithms	3 (3-0-6)
1302271 Computer Architecture	3 (3-0-6)
1302311 Object- Oriented Programming	3 (2-2-5)
1302333 Database System	3 (2-2-5)
1302340 Computer Networks	3 (2-2-5)
1501103 Electric Circuit Analysis	3 (3-0-6)
1501104 Fundamental Electronics	3 (3-0-6)
1501171 Digital Circuit and Logic Design	3 (3-0-6)
1501271 Microprocessor and Assembly Language	3 (2-3-5)
1501344 Network System Security	3 (3-0-6)
1501371 Microprocessor Applications	3 (2-3-5)
1501372 Advanced Digital System Design	3 (2-3-5)
1501391 Senior Project 1	1 (0-3-1)
1501482 Analog and Digital Control Systems	3 (2-2-5)

1501483	Embedded Systems	3 (2-3-5)
1501491	Senior Project 2	2 (0-6-2)
1501492	Seminar in Computer Engineering	1 (0-3-1)
1501496	Co-operative Education	9 (0-40-18)
	or	
1501497	Overseas Training	9 (0-40-18)
	or	
1501498	Research Project in Computer Engineering	9 (0-40-18)

2.3 Major Elective Courses

		9 Credits
Select from the following		Cr(Le-Pr-SS)*
1301331	Information Retrieval	3 (2-2-5)
1301342	Management Information Systems	3 (3-0-6)
1301343	Decision Support Systems	3 (3-0-6)
1301382	Multimedia Technology	3 (2-2-5)
1302321	Object- Oriented Design and Analysis	3 (2-2-5)
1302322	Compiler Design and Programming Languages	3 (2-2-5)
1302324	Software Engineering	3 (3-0-6)
1302325	Advance Database Systems	3 (2-2-5)
1302343	Distributed Systems	3 (3-0-6)
1302361	Introduction to Artificial Intelligence	3 (3-0-6)
1302384	Computer Graphics	3 (2-2-5)
1302422	Advance Software Engineering	3 (3-0-6)
1302461	Theory of Computation	3 (3-0-6)
1501261	Fundamental of Computational Technology	3 (2-2-5)
1501341	Networks System Programming	3 (2-2-5)
1501342	Advanced Computer Networks	3 (2-2-5)
1501361	Expert System	3 (3-0-6)
1501363	Pattern Recognition and Vision	3 (3-0-6)
1501364	Image Processing	3 (3-0-6)
1501365	Machine Learning	3 (3-0-6)
1501366	Neural Networks	3 (3-0-6)
1501367	Natural Language Processing	3 (3-0-6)
1501373	Advanced Computer Architecture	3 (3-0-6)
1501374	VLSI System Architecture and Design	3 (2-3-5)
1501375	Fault Tolerant Computing	3 (3-0-6)
1501381	Computer Aided Design and Manufacturing	3 (2-2-5)
1501382	Internet Programming Applications	3 (2-2-5)
1501481	Robotics	3 (2-3-5)
1501494	Selected Topics in Computer Engineering 1	3 (3-0-6)
1501495	Selected Topics in Computer Engineering 2	3 (3-0-6)
1501499	Selected Topics in Computer Engineering 3	3 (3-0-6)
1502231	Principles of Communication	3 (3-0-6)
1502311	Information Theory and Coding	3 (3-0-6)
1502312	Cryptography	3 (3-0-6)
1502321	Network Operating Systems	3 (3-0-6)
1502332	Communication Electronics	3 (3-0-6)
1502333	Wireless Communication	3 (3-0-6)
1502335	Digital Communications	3 (3-0-6)
1502431	Communication Systems Design	3 (3-0-6)
1502432	Digital Signal Processing	3 (3-0-6)
1502452	Parallel Processing	3 (3-0-6)
1600104	Laws and Ethics for Information Technology	

3. Free Elective Courses not less than

		6 Credits
		Cr(Le-Pr-SS)
xxxxxxx	Free Elective	3 (3-0-6)
xxxxxxx	Free Elective	3 (3-0-6)

At least six credits of free electives can be chosen from any course offered by Mae Fah Luang University.

* Cr : Credit Le : Lecture Pr : Practice SS : Self Study



Bachelor of Engineering Program in Information and Communication Engineering

B.Eng. (Information and Communication Engineering)

Total Credit	137	Credits
1. General Education Courses	30	Credits
2. Specific Requirement Courses	101	Credits
2.1 Core Courses	24	Credits
2.2 Major Required Courses	68	Credits
2.3 Major Elective Courses	9	Credits
3. Free Elective Courses	6	Credits

1. General Education Courses

30 Credits
Cr(Le-Pr-SS)*

1001101	Man and Society	2 (2-0-4)
1001103	Thai Language Skills	2 (2-0-4)
1001112	Logical Thinking	2 (1-2-3)
1001121	Recreation and Sport for Well-Being	1 (0-2-1)
1001131	World Community	2 (2-0-4)
1006217	English for Communication	3 (2-2-5)
1006218	Academic Reading and Writing	3 (2-2-5)
1006301	College Writing	2 (2-0-4)
1006302	Academic Oral Skills	2 (2-0-4)
1006303	English for Professional Purposes	1 (0-2-1)
1006304	English for Professional Success	1 (0-2-1)
1102100	Principles of Chemistry	3 (2-3-5)
1202114	Introduction to Economics	3 (3-0-6)
1203141	Organization and Management	2 (2-0-4)
1601101	Introduction to Legal Principles	3 (3-0-6)

2. Specific Requirement Courses

101 Credits

2.1 Core Courses

24 Credits
Cr(Le-Pr-SS)*

1104100	Principles of Physics	3 (2-3-5)
1106103	Mathematics 1	3 (3-0-6)
1106104	Mathematics 2	3 (3-0-6)
1106201	Mathematics 3	3 (3-0-6)
1106211	Discrete Mathematics	3 (3-0-6)
1106281	Probability and Statistics	3 (3-0-6)
1106331	Numerical Methods	3 (3-0-6)
1401251	Engineering Drawing	1 (0-3-1)
1501105	Electric Circuits and Electronics Laboratory	1 (0-3-1)
1501106	Digital and Computer Systems Laboratory	1 (0-3-1)

2.2 Major Required Courses

68 Credits
Cr(Le-Pr-SS)*

1301221	System Analysis and Design	3 (3-0-6)
1301353	Data Communication and Network	3 (2-2-5)
1302212	Computer Programming	3 (2-2-5)
1302241	Operating Systems	3 (3-0-6)
1302251	Data Structures and Algorithms	3 (3-0-6)
1302271	Computer Architecture	3 (3-0-6)
1302311	Object- Oriented Programming	3 (2-2-5)
1302333	Database System	3 (2-2-5)
1302340	Computer Networks	3 (2-2-5)
1501103	Electric Circuit Analysis	3 (3-0-6)
1501104	Fundamental Electronics	3 (3-0-6)
1501171	Digital Circuit and Logic Design	3 (3-0-6)
1501271	Microprocessor and Assembly Language	3 (2-3-5)
1501341	Networks System Programming	3 (2-2-5)

1501344	Network System Security	3 (3-0-6)
1502231	Principles of Communication	3 (3-0-6)
1502332	Communication Electronics	3 (3-0-6)
1502336	Telecommunication Laboratory	1 (0-3-1)
1502391	Senior Project 1	1 (0-3-1)
1502431	Communication Systems Design	3 (3-0-6)
1502480	Co-operative Education	9 (0-40-18)
	or	
1502481	Overseas Training	9 (0-40-18)
	or	
1502482	Research Project in Information and Communication Engineering	9 (0-40-18)
1502491	Seminar	1 (0-3-1)
1502492	Senior Project 2	2 (0-6-2)

2.3 Major Elective Courses

Select from the following		9 Credits Cr(Le-Pr-SS)*
1301331	Information Retrieval	3 (2-2-5)
1301342	Management Information Systems	3 (3-0-6)
1301343	Decision Support Systems	3 (3-0-6)
1301347	Mobile Programming	3 (2-2-5)
1301352	Information Security	3 (3-0-6)
1301382	Multimedia Technology	3 (2-2-5)
1301383	Electronic Commerce	3 (3-0-6)
1302321	Object- Oriented Design and Analysis	3 (2-2-5)
1302324	Software Engineering	3 (3-0-6)
1302325	Advance Database Systems	3 (2-2-5)
1302342	Network Operation and Administration	3 (2-2-5)
1302343	Distributed Systems	3 (3-0-6)
1302361	Introduction to Artificial Intelligence	3 (3-0-6)
1302384	Computer Graphics	3 (2-2-5)
1302461	Theory of Computation	3 (3-0-6)
1501343	High Speed Computer Networks	3 (3-0-6)
1501361	Expert System	3 (3-0-6)
1501364	Image Processing	3 (3-0-6)
1501366	Neural Networks	3 (3-0-6)
1501372	Advanced Digital System Design	3 (2-3-5)
1501375	Fault Tolerant Computing	3 (3-0-6)
1501381	Computer Aided Design and Manufacturing	3 (2-2-5)
1501382	Internet Programming Applications	3 (2-2-5)
1501481	Robotics	3 (2-3-5)
1501482	Analog and Digital Control Systems	3 (2-2-5)
1501483	Embedded Systems	3 (2-3-5)
1502311	Information Theory and Coding	3 (3-0-6)
1502312	Cryptography	3 (3-0-6)
1502321	Network Operating Systems	3 (3-0-6)
1502331	Optical Communications	3 (3-0-6)
1502333	Wireless Communication	3 (3-0-6)
1502334	Communication Engineering	3 (3-0-6)
1502335	Digital Communications	3 (3-0-6)
1502432	Digital Signal Processing	3 (3-0-6)
1502435	Electromagnetic and Applications	3 (3-0-6)
1502452	Parallel Processing	3 (3-0-6)
1502494	Selected Topics in Information and Communication Technology 1	3 (3-0-6)
1502495	Selected Topics in Information and Communication Technology 2	3 (3-0-6)
1502496	Current Topic in Modern Information and Communication Technology 1	1 (1-0-2)
1600104	Laws and Ethics for Information Technology	3 (3-0-6)

3. Free Elective Courses not less than

6 Credits
Cr(Le-Pr-SS)*
3 (3-0-6)
3 (3-0-6)

xxxxxxx Free Elective
xxxxxxx Free Elective

At least six credits of free electives can be chosen from any course offered by Mae Fah Luang University.

* Cr : Credit
Le : Lecture
Pr : Practice
SS : Self Study

Descriptions::

School of Information Technology

1301103 Information Technology Concepts

3 (2-0-4)

Prerequisite: None

Information technology concepts; importance, evolution, roles and impacts; computer systems; hardware and software; data processing; networks and computer communications; flowchartings; problem solving process.

1301104 Introduction to Information Technology

3 (2-2-5)

Prerequisite: None

An overview of information technology; importance, evolution and impacts; basic concepts of computer system: hardware and software; basis of database system; fundamentals of data communication and network; web design and webpage creation; software packages for office and internet services.

1301214 Web Design

3 (3-0-6)

Prerequisite: None

Introduction to basic web design with an emphasis on creating related contents and highly usable websites.

1301211 Information Technology Marketing Management

3 (3-0-6)

Prerequisite: None

Defining policy and introduction to information technology marketing strategy; marketing factors including economic competition as well as technology development to determine the position of products and services, price, promotion, marketing channel; consumer behavior perception on both individuals and it organizations; information technology market shares; development of marketing plans including sale planing, accessing to consumer, advertising plan, distribution plan, pricing and continuous product development.

1301221 System Analysis and Design

3 (3-0-6)

Prerequisite: None

Fundamentals of system analysis and design; Requirement analysis; Tools for system analysis; Process model; Database model; Object-oriented model; System development process; System maintenance; Case study.

1301281 Human and Information Technology

3 (3-0-6)

Prerequisite: None

Overview of relationship between man and information technology; human behavior of information and communication systems; application, impact and ethics.

1301312 Industrial Management

3 (3-0-6)

Prerequisite: None

Industrial production and services models; structure and historical backgrounds of industries; industrial management and cost control; work system analysis; theory of modern factory management; development of transportation strategy; total quality management system; quality control and quality assurance.

1301314 Hotel Information Technology Application

3 (2-2-5)

Prerequisite: None

Hotel information technology application management of new age, important and roles of information technology for tourism and hospitality industry; hotel information system, Central Reservation System (CRS), Property Management System (PMS), accounting software for hotel.

1301331 Information Retrieval 3 (2-2-5)*Prerequisite:* 1302211 or 1302212

Data structure for information storage; file structure; database system; coding technique; information retrieval; online query system; selection of data structure for computer system; retrieval logics; search technique; problems and prospects.

1301341 Office Automation Management 3 (2-2-5)*Prerequisite:* None

Development of office design; workflow analysis and design; type and characteristics of office equipments; application, testing, evaluation and maintenance; concepts of paperless and cost reduction on application of office automation; problems and prospects.

1301342 Management Information Systems 3 (3-0-6)*Prerequisite:* None

Characteristics of modern organization; roles and significance of information on decision making; data application and management; relationship between computer technology and development of information system management for administration; trends.

1301343 Decision Support Systems 3 (3-0-6)*Prerequisite:* None

Human decision process; types of information system, models and types of decision support systems; development and implementation of decision support system; related mathematical methods, formulas and simulation models; case studies.

1301344 Information Technology Project Management 3 (3-0-6)*Prerequisite:* None

Project planning, scheduling, resource management, project quality control, cost analysis.

1301345 Internet Marketing 3 (3-0-6)*Prerequisite:* None

Marketing policy improvement for competition on internet environment; decision making for management involve four major topics; communication, trading, content preparing, and network function preparing; equipment and internet technology; web site development; price and production policy; marketing distribution; direct marketing; mobile market; marketing connection; online sociality; marketing relationship creativity.

1301346 Selected Topics in Information Technology 1 3 (3-0-6)*Prerequisite:* None

Study different topics from normal to improve knowledge and skill with new technology.

1301347 Mobile Programming 3 (2-2-5)*Prerequisite:* None

Mobile, pager, and PDA application development included basic statement until condition of programming of mobile application; structure, ability, and limitation of program connection on different mobile equipment; construct and design user interface; create different type of graphic image; connect, create, and store data in mobile equipment.

1301352 Information Security 3 (3-0-6)*Prerequisite:* None

Threats in computer security systems; planning and managing security systems; disaster recovery; database security; personal security; network security; physical prevention; risk analysis; law and ethic issues.

1301353 Data Communication and Network 3 (2-2-5)*Prerequisite:* None

Fundamental concept of network system; Network protocol; Introduction to signal and communication system; TCP/IP; Routing; Subnet; Quality of service.

1301361 Business Modeling and Simulation**3 (3-0-6)***Prerequisite: 1106281 and 1202111*

Business and economic models and simulation base on hypothetical variables; effects and correlations among variables; probability and statistical theories for feasibility of outcomes; computer application for testing and simulation.

1301382 Multimedia Technology**3 (2-2-5)***Prerequisite: None*

Fundamental of multimedia, multimedia applications and requirements, multimedia interactive, computer and interactive design, courseware, hypermedia, www, internet-multimedia and also explore about multimedia issues and technologies.

1301383 Electronic Commerce**3 (3-0-6)***Prerequisite: None*

Structure and fundamental of electronic commerce; conducting commercial activities through electronic means. Topics include traditional means of conducting commerce using electronic technology, internet, intranets, public databases, semi-private networks and other telecommunications vehicles. Commercial web page design and implementation are featured.

1301391 Senior Project 1**1 (0-3-1)***Prerequisite: None*

Undergraduate research on current issues of information technology under guidance of supervisor.

1301447 Selected Topics in Information Technology 2**3 (3-0-6)***Prerequisite: None*

Study different topics from normal to improve knowledge and skill with new technology.

1301490 Co-operative Education**3 (0-35-6)***Prerequisite: None*

Student could be preparing to work as a training worker or a temporary employee at the provided training organizations; included government and non-government organization, one semester according to student's major subject. After finish, students have to send and present academic report to the major's teachers. The evaluation criterias are based on the evaluation results from the advisor of co-operative education, the officer at the organization and student's academic report.

1301491 Seminar**1 (0-3-1)***Prerequisite: None*

Seminar on theories, practices and application of current issues of information technology.

1301492 Senior Project 2**2 (0-6-2)***Prerequisite: 1301391*

Undergraduate research on current issues of information technology under guidance of supervisor.

1302202 Advance Computer Programming**3 (2-2-5)***Prerequisite: 1302111 or 1302212*

Analysis and design of intermediate to advanced program; Strings; Files; Database connection; Debugging; Error handling; Good programming style, Case study of real application development.

1302212 Computer Programming**3 (2-2-5)***Prerequisite: None*

Problem solving; Algorithm and program design; Fundamental programming, Variables; Input and output; Control structures (Condition and Repetition); Basic functions; Array; Pointers; Introduction to data structure; Advanced functions.

1302241 Operating Systems**3 (3-0-6)***Prerequisite: None*

Design concept of operating system; thread and process management; concurrent process and interprocess; uniprocessor; multiprocessor; real-time process; memory and virtual memory managements; input and output(i/o); file systems and distributed processing; security; case studies.

1302251 Data Structure and Algorithms**3 (3-0-6)***Prerequisite: None*

Data structure concept; Design and implementation of data structure; Fundamental algorithm design and analysis; Recursion; Stacks; Queues; Linked lists; Tree and Graph; Basic searching and sorting algorithms.

1302271 Computer Architecture**3 (3-0-6)***Prerequisite: None*

Logic design for digital computer using boolean algebra; combination and sequential circuits; machine; language; memory; integrated circuit; processor; input-output.

1302301 Algorithms Analysis and Design**3 (3-0-6)***Prerequisite: 1302251*

Foundations of algorithms; Algorithm analysis; Asymptotic notation; Efficient algorithm design; Divide and Conquer; Dynamic programming; Greedy algorithms; Graph algorithms; NP-complete.

1302305 Network Programming**3 (2-2-5)***Prerequisite: None*

Concepts, methodology and tools for design and develop network application; Communication protocol; TCP/IP for application layer; Principle of network programming; Sockets; Client-server application; Security and evaluation of network programming.

1302311 Object-Oriented Programming**3 (2-2-5)***Prerequisite: 1302212*

Object-oriented definition; techniques and concept of object -oriented programming including class definition, encapsulation, characteristics transfer, polymorphism process; memory unit management and object programming design.

1302311 Object-Oriented Programming**3 (2-2-5)***Prerequisite: 1302212*

Object-oriented definition; techniques and concept of object -oriented programming including class definition, encapsulation, characteristics transfer, polymorphism process; memory unit management and object programming design.

1302321 Object-Oriented Design and Analysis**3 (2-2-5)***Prerequisite: 1302311*

System development cycle; concepts of object-oriented technology; incremental system development; unified modeling language; use-cases modeling techniques; analytical modeling design; object finding concepts; object-oriented design; class design; class and object relationship; cases tools for programming.

1302322 Compiler Design and Programming Languages**3 (2-2-5)***Prerequisite: 1302212*

Compiler design for high level language; relationship between language design and compiler design; run-time organization; syntactic and lexical analysis; user-defined types; type checking; context analysis; code generation and optimization; memory management.

1302324 Software Engineering**3 (3-0-6)***Prerequisite: None*

Concepts and issues of large software projects development; systematic approaches for analysis, design, costing, implementation, testing and maintenance.

1302325 Advanced Database Systems**3 (2-2-5)***Prerequisite: 1302333*

Relational database theory, object-oriented database system, distributed database system, active database, distributed object-oriented database system, data warehouse, data mining, digital library, dynamic database system, and reasoning management database system.

1302333 Database System**3 (2-2-5)***Prerequisite: None*

Basic database system concepts and architecture; data modeling; database design; hierarchical model; network model; relational model; normalization; query language; database management system; data integrity.

1302340 Computer Networks**3 (2-2-5)***Prerequisite: None*

Fundamental of data communication; media; transmission; encoding; processing; error detection and handling; link control system; network architecture and topology; local and wide area networks; trends of information network.

1302342 Network Operation and Administration**3 (2-2-5)***Prerequisite: None*

Standard network protocols; network management programming; network administration for ethernet; Transmission Control Protocol/Internet Protocol (TCP/IP) and Asynchronous Transfer Mode (ATM); current network administration; survey and application.

1302343 Distributed Systems**3 (3-0-6)***Prerequisite: 1302344*

Distributed system concept; network architecture; client-server system; remote object; remote object service; comparison of various types of distributed system.

1302344 Introduction to Computer Networks**3 (2-2-5)***Prerequisite: None*

Fundamentals of data communications; media; transmission; encoding; processing; error detection and handling; link control; multiplexing; packet switching; network architecture and topology; local and wide area networks.

1302361 Introduction to Artificial Intelligence**3 (3-0-6)***Prerequisite: None*

Concepts and techniques of artificial intelligence; reasoning procedure under uncertainty; machine learning; neural network; image processing; robot; natural language; intelligence architecture; problems solving techniques.

1302383 Web Programming**3 (2-2-5)***Prerequisite: None*

Introduction to interactive, event-driven and dynamic web development; web programming with freeware and commercial tools; web-database development with secure interactions.

1302384 Computer Graphics**3 (2-2-5)***Prerequisite: 1302212 and 1106103*

Introduction to computer graphics, elements of pictures, graphical display devices, basic of graphic programming, simple interaction with the mouse and keyboard, making basic geometric shapes, vectors for graphics, transformation of objects, fundamental of modeling shapes and simple rendering.

1302391 Senior Project 1**1 (0-3-1)***Prerequisite: None*

Undergraduate research on current issues of computer science under guidance of supervisor.

1302392 Selected Topics in Computer Science 1**3 (3-0-6)***Prerequisite: None*

To study different topics in computer science that embraces the new and modern technology or any suitable topic in the field.

1302422 Advanced Software Engineering**3 (3-0-6)***Prerequisite: 1302324*

The concept of software design and planning; advance project management; software configuration management; software validation and verification; software architecture; case studies and real world applicaitons.

1302461 Theory of Computation**3 (3-0-6)***Prerequisite: None*

Basic concept and computational model; finite state automata; regular set; pushdown automata; turing machines; undecidability.

1302490 Co-operative Education**3 (0-35-6)***Prerequisite: None*

Student could be preparing to work as a training worker or a temporary employee at the provided training organizations; included government and non-government organization, one semester according to student's major subject. After finish, students have to send and present academic report to the major's teachers. The evaluation criterias are based on the evaluation results from the advisor of co-operative education, the officer at the organization and student's academic report.

1302491 Seminar**1 (0-3-1)***Prerequisite: None*

Seminar on theories, practices and application of current issues of computer science.

1302492 Senior Project 2**2 (0-6-3)***Prerequisite: 1302391*

Undergraduate research on current issues of computer science under guidance of supervisor.

1302494 Selected Topics in Computer Science 2**3 (3-0-6)***Prerequisite: None*

To study different topics in computer science that embraces the new and modern technology or any suitable topic in the field.

1302496 Overseas Training**9 (0-27-0)***Prerequisite: None*

Academic or professional internship abroad under university's supervision and evaluation.

1302497 Research Project in Computer Science**9 (0-27-0)***Prerequisite: None*

Research in computer science; Methodology; Research writing and evaluation.

1305101 Introduction to Software Engineering**3 (3-0-6)***Prerequisite: None*

Introduction to scientific foundation for software engineering. Software development process and life cycle, iterative and incremental software development model using object-oriented approach, contemporary software development strategies, extreme programming and agile programming.

1305201 Software Architecture**3 (3-0-6)***Prerequisite: None*

Architectural styles from both the structural and behavioral viewpoints, architectural patterns and design patterns to specific software architecture.

1305202 Software Requirement Specification and Management**3 (2-2-5)***Prerequisite: None*

Many aspects of requirements process include eliciting, analyzing, negotiating, specifying, testing and managing requirements. Methods, techniques and tools used to define, document and ensure customer satisfaction.

1305203 Software Process and Quality Assurance**3 (3-0-6)***Prerequisite: None*

Elements of software process including activities, methods, and practices, develop and maintain software development, knowledge of how to define, implement, measure, assure software process and products.

1305204 Software Construction and Evolution**3 (3-0-6)***Prerequisite: None*

Knowledge of translating a software design into an implementation language, coding styles and the development and use of program documentation. Concepts, methods, processes and techniques that support the ability of a software to change and evolve over time. System and process engineering, implement analysis, migration, refactoring, program transformation and reverse engineering.

- 1305205 Software Configuration Management 3 (3-0-6)**
Prerequisite: None
 Examines all functions necessary to support the control and maintainance of software work products integrity throughout the project's life cycle, how to establish software configuration management program; and perform configuration.
- 1305206 Software Project and Risk Management 3 (3-0-6)**
Prerequisite: None
 Basic skills required to manage a wide range of technical and team projects, selecting project alternatives, managing project teams, developing project plan elements, risk management, risk analysis and design, monitoring and controlling projects, and financial analysis of projects.
- 1305207 Software Validation and Verification 3 (3-0-6)**
Prerequisite: None
 Tools, methods, and current practices used in assessing the quality and correctness of software. The roles of testing and formal verification, fundamentals and formal models of program verification, planning and documentation for quality assurance, methods of performing technical reviews, strategies of system testing and integration planning and principles and practices used in conducting tests.
- 1305208 Enterprise Application Architecture 2 (2-0-4)**
Prerequisite: None
 Enterprise resource planning (ERP) systems, implementation issues and the organization's motivation, erp framework and architecture, leading enterprise systems.
- 1305391 Senior Project 1 1 (0-3-1)**
Prerequisite: None
 Undergraduate research on current issues of software engineering under guidance of supervisor.
- 1305392 Seminar in Software Engineering 1 (0-3-1)**
Prerequisite: None
 Seminar on theories, practices and application of current issues of software engineering.
- 1305401 Database Application Development 3 (3-0-6)**
Prerequisite: None
 Application development features of the database. Programming features of a database like PL/SQL, PSP, features of web application, java-stored procedures and SQJ.
- 1305402 Data Warehousing and Data Mining 3 (3-0-6)**
Prerequisite: None
 Warehouse and data mining, data transformation, design and create data warehouses for experience.
- 1305491 Senior Project 2 2 (0-6-2)**
Prerequisite: 1305391
 Undergraduate research on current issues of software engineering under guidance of supervisor.
- 1305492 Software Engineering Case Studies 3 (3-0-6)**
Prerequisite: None
 Problem solving focus in software engineering field, designated team to solve the case study problem generate a solution to the problem.
- 1305495 Co-operative Education 6 (0-40-12)**
Prerequisite: None
 Student could be preparing to work as a training worker or a temporary employee at the provided training organizations; included government and non-government organization, one semester according to student's major subject. After finish, students have to send and present academic report to the major's teachers. The evaluation criterias are based on the evaluation results from the advisor of co-operative education, the officer at the organization and student's academic report.

1306201 Composition Art**3 (2-2-5)***Prerequisite: None*

The course provides an understanding of the methods of identifying, interpreting, and evaluating ideas in the creative arts. Areas covered include art's functions, the visual elements and principles of design, the styles of art, and the art object.

1306202 Basic Drawing**3 (1-6-4)***Prerequisite: None*

Students will explore a beginning drawing, of building a solid foundation in basic drawing skills through observation. Student will aim to develop sensitivity to the structure, anatomy and expressive qualities of the human form in a variety of ways including; line, plane, value, mass and shape. Composition will be a consideration at all times.

1306203 History of Art and Design**3 (3-0-6)***Prerequisite: None*

This course conducts a comparative study of the visual arts in different time periods and cultures between European art and Asia art. Students will develop knowledge of the history and theory of art and the relationship between artist, artwork, and society. Students will research and critique periods, styles, and works of art from early civilizations through the middle ages. Emphasis will be placed on the role of works of art based on subject matter, theme, concept, symbolism, or allegory/metaphor.

1306205 Character Design and Animation Basic**3 (2-2-5)***Prerequisite: None*

Students will apply their basic drawing and anatomy knowledge to the creation of animation characters. Students will explore the relative to human, animal, and inanimate object-based characters. Students will then learn to place these characters into appropriately designed environments. Professional applications, techniques, and standards of quality will be emphasized.

1306206 2D Design and Animation**3 (2-2-5)***Prerequisite: None*

This course introduces students to the principles of 2D animation through classical animation techniques. Students will explore the art of creating convincing movement through good timing, spacing, and drawing. Students will use variety of computer programs for create 2D animation and put their knowledge to work through a series of exercises. Emphasis is placed on the analysis of actions.

1306207 3D Design and Animation**3 (2-2-5)***Prerequisite: None*

This course introduces students to the industry standard software and practices of 3D animation. The course begins with basic information such as interface organization strategies, equipment options, and production elements. It then introduces techniques and critical thinking for texture mapping, modeling, rigging, lighting, cameras, and animation.

1306208 Script Writing and Storyboarding**3 (2-2-5)***Prerequisite: None*

This course explores the animation pre-production skills of script writing and storyboard art. Students will leverage their knowledge of script writing, drawing, storytelling, and cinematography to create both production and presentation storyboards. They will also explore means of using drawing to create story flow, character development, mood, time, and place. Professional applications, techniques, and standards of quality will be emphasized.

1306209 Basic Texturing, Lighting and Rendering**3 (2-2-5)***Prerequisite: None*

Students will explore basic three point lighting techniques, while mastering shadow maps, ray traced shadows, area shadows and faking radiosity. Students will explore how to create materials and textures for the 3D environment, applying those materials to objects, and rendering them.

1306210 Computer Graphics and Design 3 (2-2-5)

Prerequisite: None

This course introduces students to develop an understanding of the basic design principles, including space, line, form, color, composition of art and the use of letterforms and design contrasts to convey a visual message. Students will explore the industry standard software and practices of computer graphics and design.

1306211 Computer Game Concept Design Basic 3 (2-2-5)

Prerequisite: None

This course is an overview of game development from the creative and theoretical standpoint. Students will learn to analyze games and gameplay elements, examine genres and trends in gaming and formulate their own outline for game idea.

1306212 Introduction to Digital Photography 3 (2-2-5)

Prerequisite : None

Concept of photography designed; digital photography equipments; basic of photography; theoretical; technical and compositional skills. Topics include theory, mechanics, and art of digital imagery, imaging techniques, visual literacy, and uses of photography in professional areas.

1306213 Computer Graphics for Every Day Use 3 (2-2-5)

Prerequisite : None

The principles and history of graphics design. Graphics design process. Concepts of desktop publishing design; typography and visual communication; letterhead design; corporate identity; desktop publication design; advertising design.

1306409 Multimedia Design 3 (2-2-5)

Prerequisite: None

Students will be actively involved in learning and designing dynamic multimedia products using presentation programs. The course will encourage hands-on participation and group learning as the students research the internet and peripherals such as CD-ROM, camcorder, scanner and digital photography.

1306410 Advanced Game Design and Production 3 (2-2-5)

Prerequisite: None

This course explores the advance of game design and development from the creative and theoretical. Students will continue the exploration of game theory by discussing and demonstrating how it is applied to production based projects. Students will leave this course with a good game design as a completed project that demonstrates their understanding of the topic.

1306411 Computer Simulation 3 (2-2-5)

Prerequisite: None

This course is an introduction to discrete-event simulation for the modeling and analysis of complex real-world systems. Topics include review of the probability theory, simulation mode: Simulation verification and validation, model design and development, comparison to analytical models, input data preparation, random number generation, output statistical analysis, and model validation.

1306412 Virtual Reality 3 (2-2-5)

Prerequisite: None

In this course we will study virtual reality interface techniques and programming. Topics include physical interface devices; methods of manipulating a virtual world; evaluating VR applications and programming VR applications.

1306413 Advanced Game Programming 3 (2-2-5)

Prerequisite: None

This course explores the advance concepts of game programming in C++, JAVA, and DirectX. In this course, students will examine advanced concepts of game programming with various game styles such as network game, role playing game, simulation game, action game and etc.

1501102 Basic Information and Communication Technology Laboratory 2 1 (0-3-1)

Prerequisite: 1501101

Computer assembly; computer network system configuration; network operation system configuration; unix operation system.

1501103 Electric Circuit Analysis**3 (3-0-6)***Prerequisite: None*

Electronic circuit modeling; definitions and rules; signal wave form; principles and methods of electric circuit analysis; operational amplifier (OP-AMPS); direct circuit (DC) analysis; fundamental circuits.

1501104 Fundamental Electronics**3 (3-0-6)***Prerequisite: None*

Introduction and development of electronic devices; theory of semiconductor; basic properties of P-N junction, diodes and function of diodes; application of bipolar transistor; biasing; small and large signal amplifiers circuit analysis; hybrid- model; high frequency amplifier circuits; properties and basic application of field-effect-transistor(FET); feed back amplifiers; differential amplifiers; active filters; stability and reimburse of multi-section amplifiers; fundamental of integrated circuits.

1501171 Digital Circuit and Logic Design**3 (3-0-6)***Prerequisite: None*

Overview of digital circuit and logic design; switching circuit theory; boolean algebra; computer machine code; truth table; karnaugh map; wayne map, gate circuit, flip-flop circuit; counter circuit; register circuit; digital system; introductory microprocessor.

1501271 Microprocessor and Assembly Language**3 (2-3-5)***Prerequisite: 1501171*

Technology and architecture of microprocessors; characteristics and types; connection technique; register; arithmetic and logic unit (ALU); control unit; standard bus; high speed bus; system clock; interrupt system; memory design; input - output and peripheral design; data manipulation and machine instructions; machine code; assembly language and programming; application of single board microcontroller.

1501311 Parallel Programming**3 (2-2-5)***Prerequisite: 1302111*

Introduction to basic design and system development of parallel computers; parallel programming; error detection and correction; performance evaluation.

1501341 Network Systems Programming**3 (2-2-5)***Prerequisite: 1302341*

Client/server model;connection/connectionless server; error protocol and recovering; basic socket; transmission control protocol /user datagram protocol (TCP/UDP); multiplexing; socket options; advanced socket naming and address conventions; non-blocking input and output; multicast and broadcast; out of band data; raw socket; data link access; design and develop network programming; interlink process; transport layer communication.

1501342 Advanced Computer Networks**3 (2-2-5)***Prerequisite: 1302341*

Co-functions of internet protocol versions 4 and 6 (IPV4/IPV6); daemon processes; routing and switching; using and implementing of router; mobile wireless protocol; trends.

1501343 High Speed Computer Networks**3 (3-0-6)***Prerequisite: 1302341*

Definitions and models of high speed computer networks; network design and administration; optical network; switching technology; modern high speed network technology.

1501344 Network System Security**3 (3-0-6)***Prerequisite: 1302341*

Security techniques for multi-user computer and distributed computer system; fundamental of cryptography; computer virus; firewall; risk management; internet and web security.

1501361 Expert System**3 (3-0-6)***Prerequisite: 1302361*

Principles of expert system; structure of expert systems; knowledge representation techniques; rules and meaning; information retrieval; mechanism for reasoning with knowledge; relationship to natural language system.

1501362 Introduction to Natural Language Processing**3 (3-0-6)***Prerequisite: None*

Principles of mathematics for basic knowledge of natural language processing; syntactic and lexical analysis; substitution for meaning of sentence; analysis and synthesis of inter-sentences relation.

1501363 Pattern Recognitions and Vision**3 (3-0-6)***Prerequisite: None*

Comparative patterns of masking; alphabet recognition management; binary data adaptation; dimension reduction; linear techniques for clustering and pattern recognition; bayesian analysis; automatic system of vision handling; data selection methods; integrated processing; hierarchical data structure; graphic processing; three dimensional processing.

1501364 Image Processing**3 (3-0-6)***Prerequisite: None*

Fundamental image processing; visualization; mathematical image modeling; multidimensional signal processing; sampling, fourier transformation; image property and improvement; image compression techniques; image color processing.

1501365 Machine Learning**3 (3-0-6)***Prerequisite: None*

Decision algorithms; base learning and case-based learning; nearest neighbor classifiers; genetic algorithm; inductive logic programming.

1501366 Neural Network**3 (3-0-6)***Prerequisite: None*

Neural network architectures; analysis and computation of neural network; probability analysis on feed-forward network; hardwares; fuzzy logic; designs of applications; trends.

1501371 Microprocessor Application**3 (2-3-5)***Prerequisite: 1501271*

Switching devices and implementation; signal detection devices; signal conversion; automatic control systems; microcomputer interfacing techniques; microcontroller; robotic interfacing; trends.

1501372 Advance Digital System Design**3 (2-3-5)***Prerequisite: 1501171*

Digital circuit designs; synchronous and asynchronous serial circuits; combination and sequential circuits; digital system design with integrated circuits and programable logic devices; development of computer hardware; very high speed integrated circuit hardware description language (VHDL).

1501373 Advanced Computer Architecture**3 (3-0-6)***Prerequisite: None*

Fundamental computer designs; instruction designs and parallel processor; architectures of single instruction single device(SISD); single instruction multiple device(SIMD), multiple instruction single device(MIMD) and multiple instruction multiple device; parallel reduce instruction set computer (RISC); fault tolerance; multiprocessor system and network interconnection.

1501374 VLSI Systems Architecture and Design**3 (2-3-5)***Prerequisite: 1501104 and 1501171*

Fundamental techniques and computer tools for digital system designs; very large scale integrated circuits (VLSI) design and implementation with NMOS and CMOS technology; computer aided design (CAD) tools for simulating and testing; architecture subsystems; hardware descriptive language; hardware compiler.

1306414 Game Artificial Intelligent Concepts**3 (3-0-6)***Prerequisite: None*

This course will discuss AI involved in the creation of games. Students will understand concepts such as pathfinding, movement, flocking, agents, scripting, and strategy. Students will use a variety of tools to create functioning projects that demonstrate class concepts, and study various game AI systems and theories

1306415 Selected Topics in Multimedia and Animation 3 (2-2-5)*Prerequisite: None*

This course enables you to propose and conduct a study of special topics of interest, which are related to multimedia and animation technology. Appropriate course topics address an area of study that complements your past experience and learning objectives.

1306491 Senior Project 2 2 (0-6-2)*Prerequisite: 1306391*

Undergraduate research on current issues of multimedia technology and animation under guidance of supervisor.

1306492 Seminar 1 (0-3-1)*Prerequisite: None*

Seminar on theories, practices and application of current issues of multimedia technology and technology.

1306495 Co-operative Education 6 (0-40-12)*Prerequisite: None*

Student could be preparing to work as a training worker or a temporary employee at the provided training organizations; included government and non-government organization, one semester according to student's major subject. After finish, students have to send and present academic report to the major's teachers. The evaluation criterias are based on the evaluation results from the advisor of co-operative education, the officer at the organization and student's academic report.

1501101 Basic Information and Communication Technology Laboratory 1 1 (0-3-1)*Prerequisite: None*

Basic engineering instruments; basic electrical and electronic measurement; application of electronic devices; circuit wiring; basic laboratories for digital circuit.

1501381 Computer Aided Design and Manufacturing 3 (2-2-5)*Prerequisite: None*

Application and advancement of computer aided design (CAD) and computer aided manufacturing (CAM); design theories; mathematics for graphic design and simulation; design and application of computer numerical control (CNC) machines.

1501481 Robotics 3 (2-3-5)*Prerequisite: None*

Fundamental artificial intelligence in robotics; philosophy and historical development of robotics; hardware components and subsystems; sensory measurement and perception systems; architecture and robotic system; problems and solutions; learning process, motion planning, navigation, obstacle avoidance and vision system of robotics; robotic laboratory.

1501482 Analog and Digital Control Systems 3 (2-2-5)*Prerequisite: None*

Principle of control systems, characteristic of feedback control systems, response and stability, introduction to digital control systems, response and stability of digital control systems.

1501483 Embedded Systems 3 (2-3-5)*Prerequisite: None*

Principle of embedded systems, embedded program, real-time operating system, design methodology, supporting tools.

1501490 Co-operative Education 3 (0-35-6)*Prerequisite: None*

Student could be preparing to work as a training worker or a temporary employee at the provided training organizations; included government and non-government organization, one semester according to student's major subject. After finish, students have to send and present academic report to the major's teachers. The evaluation criterias are based on the evaluation results from the advisor of co-operative education, the officer at the organization and student's academic report.

- 1501491 Senior Project 2** **2 (0-6-2)**
Prerequisite: 1501391
 Undergraduate research on current issues of computer engineering under guidance of supervisor.
- 1501492 Seminar in Computer Engineering** **1(0-3-1)**
Prerequisite: None
 Seminar on theories, practices and application of current issues of computer engineering.
- 1501494 Selected Topics in Computer Engineering 1** **3 (3-0-6)**
Prerequisite: None
 Study and research interesting topic in computer engineering.
- 1501495 Selected Topics in Computer Engineering 2** **3 (3-0-6)**
Prerequisite: None
 Study and research interesting topic in computer engineering.
- 1501496 Co-operative Education** **9 (0-40-18)**
Prerequisite: None
 Student could be preparing to work as a training worker or a temporary employee at the provided training organizations; included government and non-government organization, one semester according to student's major subject. After finish, students have to send and present academic report to the major's teachers. The evaluation criterias are based on the evaluation results from the advisor of co-operative education, the officer at the organization and student's academic report.
- 1501497 Overseas Training** **9 (0-40-18)**
Prerequisite: None
 Overseas training in organizations under university's supervision and evaluation.
- 1501498 Research Project in Computer Engineering** **9 (0-40-18)**
Prerequisite: None
 Undergraduate research on current issues of computer engineering under guidance of supervisor; practical works on scientific process; report writing and oral presentation.
- 1502231 Principles of Communication** **3 (3-0-6)**
Prerequisite: None
 Principles of electromagnetic waves; transmission lines; antennas; modulation theory; principles of communication equipments; wireless communications; communication network architectures.
- 1502232 Measurements and Instrumentations in Communication Systems** **2 (1-3-3)**
Prerequisite: None
 Introduction of measurements and instrumentations; measurement of resistance, capacitance, inductance, impedance, voltage, current, power, energy, frequency, phase; oscilloscope, digital meter; frequency response and spectrum; attenuation; noise and noise sources; signal-to-noise ratio.
- 1502241 Web Design** **1 (0-2-1)**
Prerequisite: None
 Web design and development using tables and frames as web components; interactive web designs.
- 1502335 Digital Communications** **3 (3-0-6)**
Prerequisite: None
 Sampling; pulse-code modulation; multiplexing; line coding; theory of probability; optimum signal detection; information theory; error correcting codes; baseband pulse transmission; carrier transmission; receivers for disturbed channels.
- 1502432 Digital Signal Processing** **3 (3-0-6)**
Prerequisite: None
 Time-varying signals; z-transformation; discrete Fourier transformation; Fourier analysis for time-varying signals; digital filter design; random signals; homomorphic signal processing; power spectrum estimation.

1502435 Electromagnetic and Applications**3 (3-0-6)***Prerequisite: None*

Static electric fields, conductors and dielectrics, capacitance, convection and conduction currents, static magnetic fields, inductance, magnetic materials and magnetic circuits, time-varying electric and magnetic fields, Maxwell's equations, electromagnetic waves and transmission lines, introduction to waveguides and antennas.

1502452 Parallel Processing**3 (3-0-6)***Prerequisite: None*

Parallel processing fundamentals; application of continuity; particles and graphs; synchronization and locality of parallel processing; models of parallel processor; data compilation; memory sharing, synchronization, cache coherence; multithreading; instruction set; design and evaluation of systems; instruction set and compiler technology.

1502490 Co-operative Education**3 (0-35-6)***Prerequisite: None*

Student could be preparing to work as a training worker or a temporary employee at the provided training organizations; included government and non-government organization, one semester according to student's major subject. After finish, students have to send and present academic report to the major's teachers. The evaluation criterias are based on the evaluation results from the advisor of co-operative education, the officer at the organization and student's academic report.

1502491 Seminar**1 (0-3-1)***Prerequisite: None*

Seminar on theories, practices and application of current issues of information and communication technology.

1502492 Senior Project 2**2 (0-6-2)***Prerequisite: 1502391*

Focus on the problem study and also virtual and updated need in a higher complication. Students have to compile summarized computer knowledge in term of both theoretical and practical skills to be employed for systematic analysis and problem solving on scientific basis under the supervision of the advisor. The students have to have through understanding of their own work and be able to make presentation well enough to relay and disseminate it to others.

1502494 Selected Topics in Information and Communication Technology 1**3 (3-0-6)***Prerequisite: None*

Study and research on interesting topic in information and communication technology.

1502495 Selected Topics in Information and Communication Technology 2**3 (3-0-6)***Prerequisite: 1502494*

Study and research on interesting topic in information and communication technology.

1502496 Current Topics in Modern Information and Communication Technology**1 (1-0-2)***Prerequisite: None*

Study the modern topics and details related to information and communication.

1502480 Co-operative Education**9 (0-40-18)***Prerequisite: None*

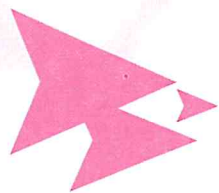
Student could be preparing to work as a training worker or a temporary employee at the provided training organizations; included government and non-government organization, one semester according to student's major subject. After finish, students have to send and present academic report to the major's teachers. The evaluation criterias are based on the evaluation results from the advisor of co-operative education, the officer at the organization and student's academic report.

1502481 Overseas Training**9 (0-40-18)***Prerequisite: None*

Overseas training in organizations under university's supervision and evaluation.

1502482 Research Project in Information and Communication Engineering**9 (0-40-18)***Prerequisite: None*

Undergraduate research on current issues of information and communication engineering under guidance of supervisor; practical works on scientific process; report writing and oral presentation.



School of Agro-Industry

- ▶ **Food Technology**
- ▶ **Technology Management of Agricultural
Produces and Packaging**

School of Agro-Industry

Mae Fah Luang University

The school of Agro-Industry was established in 1998, providing high quality teaching and research in areas of food technology and postharvest technology. It is committed to the industry in graduating competent food technologists with professional ethics and responsibility to maintain and enhance professional competent by continuing updating and improving their knowledge and proficiency in its application.

The school offers two undergraduate programs: B.Sc. in Food Technology and B.Sc. in Technology Management of Agricultural Produces and Packaging to provide graduates with extensive options and a strong competitive edge in the job market.

The Food Technology program integrates the application of several contributory sciences which one related to various manufacturing operations, processes, product development, quality assurance and control and the use of statistics for designing experimental work and evaluating the results, with consideration for the environment and public.

The Technology Management of Agricultural Produces and Packaging program emphasizes the application of postharvest technology and packaging to maintain quality and prolong shelf life of fresh produces. The program provides knowledge and expertise that covers all aspects of technology management of agricultural produces including postharvest physiology, postharvest handling, packaging, agricultural logistics and supply chain for successful to business management in postharvest and food technology.



Bachelor of Science Program in Food Technology B.Sc.(Food Technology)

Total Credit	138 Credits
1. General Education Courses	30 Credits
2. Specific Requirement Courses	102 Credits
2.1 Core Courses	40 Credits
2.2 Major Required Courses	56 Credits
2.3 Major Elective Courses	6 Credits
3. Free Elective Courses	6 Credits

1. General Education Courses	30 Credits
	Cr(Le-Pr-SS)*
1001101 Man and Society	2 (2-0-4)
1001103 Thai Language Skills	2 (2-0-4)
1001112 Logical Thinking	2 (1-2-3)
1001121 Recreation and Sport for Well-Being	1 (0-2-1)
1001141 General Psychology	3 (3-0-6)
1006217 English for Communication	3 (2-2-5)
1006218 Academic Reading and Writing	3 (2-2-5)
1006301 College Writing	2 (2-0-4)
1006302 Academic Oral Skills	2 (2-0-4)
1006303 English for Professional Purposes	1 (0-2-1)
1006304 English for Professional Success	1 (0-2-1)
1203141 Organization and Management	2 (2-0-4)
1301104 Introduction to Information Technology	3 (2-2-5)
1601101 Introduction to Legal Principles	3 (3-0-6)

2. Specific Requirement Courses	102 Credits
2.1 Core Courses	40 Credits
	Cr(Le-Pr-SS)*
1102101 General Chemistry 1	3 (2-3-5)
1102102 General Chemistry 2	3 (2-3-5)
1102210 Principles of Analytical Chemistry	3 (2-3-5)
1102223 Principles of Physical Chemistry	3 (3-0-6)
1102230 Principles of Organic Chemistry	3 (2-3-5)
1102250 Principles of Biochemistry	3 (2-3-5)
1103101 General Biology 1	3 (2-3-5)
1103102 General Biology 2	3 (2-3-5)
1103211 Microbiology	4 (3-3-7)
1104100 Principles of Physics	3 (2-3-5)
1106103 Mathematics 1	3 (3-0-6)
1106104 Mathematics 2	3 (3-0-6)
1106282 Statistics and Experimental Design	3 (3-0-6)

2.2 Major Required Courses	56 Credits
	Cr(Le-Pr-SS)*
1401104 Introduction to Agro-industry and Agricultural Materials	2 (2-0-4)
1401205 Quality Characteristics of Agricultural Materials	3 (2-3-5)
1401251 Engineering Drawing	1 (0-3-1)
1401344 Process Operation	3 (2-3-5)
1401362 Quality System and Management in Agro-industry	2 (2-0-4)
1402221 Food Microbiology	3 (2-3-5)
1402313 Food and Nutrition	2 (2-0-4)
1402314 Food Chemistry	3 (2-3-5)
1402315 Food Analysis	3 (2-3-5)
1403351 Food Processing	3 (2-3-5)
1403491 Seminar	1 (0-3-1)
1403492 Special Problem	3 (0-9-3)
1403497 Research Project in Food Technology	9 (0-40-18)

1403498	Co-operative Education	9 (0-40-18)
1403499	Overseas Training	9 (0-40-18)
1404351	Process Engineering	3 (2-3-5)
1404352	Food Process Engineering	3 (2-3-5)
1404453	Plant Management and Logistics for Food-Industry	3 (2-3-5)
1404454	Instrument and Process Control	2 (1-3-4)
1405461	Food Laws	2 (2-0-4)
1406363	Food Product Development and Marketing	3 (2-3-5)
1408201	Principles of Packaging	2 (2-0-4)

2.3 Major Elective Courses

6 Credits

Select from the following

Cr(Le-Pr-SS)*

1403342	Fruit and Vegetable Technology	3 (2-3-5)
1403343	Fermented Food Technology	3 (2-3-5)
1403344	Fishery Product Technology	3 (2-3-5)
1403443	Dairy Products Technology	3 (2-3-5)
1403444	Technology of Meat, Poultry and Egg Products	3 (2-3-5)
1403445	Technology of Cereal Products	3 (2-3-5)
1403446	Bakery Technology	3 (2-3-5)
1403447	Confectionery Technology	3 (2-3-5)
1403448	Beverage Technology	3 (2-3-5)
1403449	Waste Treatment and Utilization	3 (2-3-5)
1404251	Mathematical Concepts for Food Technology	3 (2-3-5)
1406362	Sensory Evaluation	3 (2-3-5)
1407442	Extending Shelf Life for Meat	3 (2-3-5)
1408442	Packaging in Food Industry	3 (2-3-5)

3. Free Elective Courses not less than

6 Credits

Cr(Le-Pr-SS)*

xxxxxxx	Free Elective	3 (3-0-6)
xxxxxxx	Free Elective	3 (3-0-6)

At least six credits of free electives can be chosen from any course offered by Mae Fah Luang University.

* Cr : Credit
Le : Lecture
Pr : Practice
SS : Self Study



Bachelor of Science Program in Technology Management of Agricultural Produces and Packaging

B.Sc.(Technology Management of Agricultural Produces and Packaging)

Total Credit	138 Credits
1. General Education Courses	30 Credits
2. Specific Requirement Courses	102 Credits
2.1 Core Courses	37 Credits
2.2 Major Required Courses	59 Credits
2.3 Major Elective Courses	6 Credits
3. Free Elective Courses	6 Credits

1. General Education Courses	30 Credits
	Cr(Le-Pr-SS)*
1001102 Environment and Development	2 (2-0-4)
1001103 Thai Language Skills	2 (2-0-4)
1001112 Logical Thinking	2 (1-2-3)
1001141 General Psychology	3 (3-0-6)
1006217 English for Communication	3 (2-2-5)
1006218 Academic Reading and Writing	3 (2-2-5)
1006301 College Writing	2 (2-0-4)
1006302 Academic Oral Skills	2 (2-0-4)
1006303 English for Professional Purposes	1 (0-2-1)
1006304 English for Professional Success	1 (0-2-1)
1202114 Introduction to Economics	3 (3-0-6)
1301104 Introduction to Information Technology	3 (2-2-5)
1601101 Introduction to Legal Principles	3 (3-0-6)

2. Specific Requirement Courses	102 Credits
2.1 Core Courses	37 Credits
	Cr(Le-Pr-SS)*
1102101 General Chemistry 1	3 (2-3-5)
1102102 General Chemistry 2	3 (2-3-5)
1102210 Principles of Analytical Chemistry	3 (2-3-5)
1102230 Principles of Organic Chemistry	3 (2-3-5)
1102250 Principles of Biochemistry	3 (2-3-5)
1103101 General Biology 1	3 (2-3-5)
1103102 General Biology 2	3 (2-3-5)
1103211 Microbiology	4 (3-3-7)
1104100 Principles of Physics	3 (2-3-5)
1106103 Mathematics 1	3 (3-0-6)
1106104 Mathematics 2	3 (3-0-6)
1106282 Statistics and Experimental Design	3 (3-0-6)

2.2 Major Required Courses	59 Credits
	Cr(Le-Pr-SS)*
1203121 Principles of Marketing	3 (3-0-6)
1203132 Principles of Business Management	3 (3-0-6)
1401104 Introduction to Agro-industry and Agricultural Materials	2 (2-0-4)
1401205 Quality Characteristics of Agricultural Materials	3 (2-3-5)
1401251 Engineering Drawing	1 (0-3-1)
1401344 Process Operation	3 (2-3-5)
1401362 Quality System and Management in Agro-industry	2 (2-0-4)
1407212 Postharvest Biology of Plant	4 (3-3-7)
1407291 Agricultural Training	1 (0-7-1)
1407311 Postharvest Pathology and Entomology	3 (2-3-5)
1407343 Postharvest Technology and Handling of Plant	3 (2-3-5)
1407462 Agricultural Logistic and Supply Chain	3 (3-0-6)
1407480 Regulation of agricultural and Package	1 (1-0-2)

1407491	Seminar	1 (0-3-1)
1407492	Special Problem	3 (0-9-3)
1407497	Research Project in Postharvest and Packaging	9 (0-40-18)
	or	
1407498	Co-operative Education	9 (0-40-18)
	or	
1407499	Overseas Training	9 (0-40-18)
	or	
1408201	Principles of Packaging	2 (2-0-4)
1408241	Packaging Materials and Application	4 (3-3-7)
1408341	Packaging System and Testing	3 (2-3-5)
1408342	Packaging for Fresh Produces	3 (2-3-5)
1408445	Packaging for Transportation	2 (2-0-4)

2.3 Major Elective Courses

6 Credits

Select from the following

Cr(Le-Pr-SS)*

1203253	Production and Operations Management	3 (3-0-6)
1406362	Sensory Evaluation	3 (2-3-5)
1407344	Minimally Processed Fruit and Vegetables	3 (2-3-5)
1407345	Risk Assessment of Agricultural Materials	3 (2-3-5)
1407346	Economic Fruit Crop	3 (2-3-5)
1407347	Postharvest Technology of Field Crops	3 (2-3-5)
1407401	Plant Growth Regulators	3 (2-3-5)
1407441	Postharvest Technology for Ornamental Crops	3 (2-3-5)
1407442	Extending Shelf Life for Meat	3 (2-3-5)
1408442	Packaging in Food Industry	3 (2-3-5)
1408443	Printing Technology for Package	3 (2-3-5)
1408446	Permeation and Product Shelf Life	3 (2-3-5)
1408447	Active Packaging	3 (2-3-5)
1408470	Packaging Design and Marketing	3 (2-3-5)
1409460	Introduction to Agricultural Economics	3 (3-0-6)

3. Free Elective Courses not less than

6 Credits

Cr(Le-Pr-SS)*

xxxxxxx	Free Elective	3 (3-0-6)
xxxxxxx	Free Elective	3 (3-0-6)

At least six credits of free electives can be chosen from any course offered by Mae Fah Luang University.

* Cr : Credit
 Le : Lecture
 Pr : Practice
 SS : Self Study

Descriptions::

School of Agro-Industry

- 1401101 Introduction to Food Technology** **1 (1-0-2)**
Prerequisite: None
 Importance and source of food; raw material sorting; postharvest transformation; principles of food preservation and processing; roles of microorganism; current development; food legislation.
- 1401103 Introduction to Agro-industry and Agricultural Materials** **3 (3-0-6)**
Prerequisite: None
 Introduction to agro-industry; problems and utilization of agricultural raw materials; characteristics and postharvest changes; postharvest management; marketing of agricultural products.
- 1401202 Food Processing 1** **3 (2-3-5)**
Prerequisite: 1102102 and 1103102
 Preparation of raw materials for food processing; fermentation; low and high temperature processing; compound separation; study tour.
- 1401203 Quality Characteristics of Agricultural Materials** **3 (3-0-6)**
Prerequisite: None
 Characteristics of agricultural produces; chemical, physical and microbiological properties; and sensory evaluation.
- 1401204 Quality Characteristics of Agricultural Materials Laboratory** **1 (0-3-1)**
Prerequisite: None
 Practical studies on characteristics of agricultural produces; chemical, physical and microbiological properties; and sensory evaluation.
- 1401251 Engineering Drawing** **1 (0-3-1)**
Prerequisite: None
 Lettering; basic drawing requirements; applied geometry; orthographic projections; dimensioning; section and convention; auxiliary view, true length; true size of plane; pictorial drawings; working drawings; drawings and computer aided design (CAD).
- 1401303 Food Processing 2** **3 (2-3-5)**
Prerequisite: 1401202
 Concentration; dehydration; baking and frying; Irradiation; microwave heating; extrusion; stability and storage life; other processing technology; problems and current issues; study tour.
- 1401304 Food Processing** **4 (3-3-7)**
Prerequisite: 1102102 and 1103102
 Fermentation processing; baking and frying; irradiation; microwave heating; extrusion; other processing technology; stability and storage life; chemical preservation; study tour.
- 1401305 Food Process Engineering** **4 (3-3-7)**
Prerequisite: 1401202 and 1401304
 Preparation of raw materials for food processing; low and high temperature processing; concentration; drying; compound separation; study tour.
- 1401341 Food Quality Assurance** **3 (2-3-5)**
Prerequisite: 1401202 or 1401304
 Principles of quality control and assurance; quality factors and measurement; quality assurance system; statistics for quality control.
- 1401342 Food Plant Sanitation and Food Safety** **3 (2-3-5)**
Prerequisite: 1401202 or 1401304
 Good Manufacturing Practice (GMP); plant sanitation management system including controlling, monitoring, risk analysis and assessment; waste management of agro-industry; environmental laws; problems and current issues; study tour.

1401343 Process Operation**4 (3-3-7)***Prerequisite: 1401103*

Types of food; major processes of food deterioration; raw material preparation; preservation of fresh food products; ambient-temperature processing; minimal processing; processing by chemical treatment; fermentation processing; processing by application of heat; heat processing using hot air and hot oil; processing by radiated energy; processing by the removal of heat; food quality deterioration during processing; post-processing operations.

1401361 Quality System and Management in Agro-industry**3 (2-3-5)***Prerequisite: 1401343*

Principles of quality management; GAP (Good Agricultural Practices), GMP (Good Manufacturing Practices), HACCP (Hazard Analysis and Critical Control Point), risk assessment and ISO series; food industrial waste management; subjective methods for quality control; statistical tools for quality assurance; international quality standards and food regulation.

1402221 Food Microbiology**3 (2-3-5)***Prerequisite: 1103211*

Roles and importances of microorganism in food; factors affecting growth of microorganisms in food; food spoilage microorganisms; spoilage characteristics and prevention; foodborne illness; microbial toxins; indicator microorganisms for food quality and food safety; utilization of microorganisms in food industry; microbiological standards and determination of microorganisms in food products, including rapid method.

1402313 Food and Nutrition**2 (2-0-4)***Prerequisite: 1102250*

Composition of human body; digestive system; energy requirement; functions of micronutrients and micronutrients; food selection; health foods and functional foods; food guide pyramids; nutrient requirements of vulnerable groups; nutritional diseases and malnutrition; nutrient changes during food processing; nutrient labeling; food toxicity.

1402314 Food Chemistry**3 (2-3-5)***Prerequisite: 1102250*

Chemical composition of food: water, carbohydrates, lipids, proteins, vitamins and minerals; chemical and functional properties of these components; biochemical reactions affecting food qualities during processing and storage, including preventions; food additives and contaminants; pigments; enzymes in foods; chemical characteristics of specific food groups.

1402315 Food Analysis**3 (2-3-5)***Prerequisite: 1402314*

Principles and application of analytical techniques in food analysis including colorimetry, polarimetry, spectrophotometry and chromatography; structure of instrument and their analytical characteristics.

1403342 Fruit and Vegetable Technology**3 (2-3-5)***Prerequisite: 1401343 or 1401101*

Compositions and nutritional value of fruits and vegetables; postharvest changes in physical, chemical and nutritional values; storage; principles of preservation and processing; problems and prospects; study tour.

1403434 Instrument and Process Control**3 (2-3-5)***Prerequisite: 1401303 and 1403333*

Fundamental theories and mathematics approaches for analysis and design of control system; proportional-integral-differential (pid) control; sensors and measurement instruments; design of control system for food processes.

1403441 Process Design**3 (2-3-5)***Prerequisite: 1401303 and 1403333*

Characteristics and functions of process design; concepts and criteria of projects; engineering layouts of processing line; specification and design of specific equipment; scale-up concept; economic analysis.

1403442 Process Design**2 (2-0-4)***Prerequisite:* 1401303 or 1401304

Characteristics and functions of process design; concepts and criteria of projects; engineering layouts of processing line; specification and design of specific equipment; scale-up concept; economic analysis.

1403443 Dairy Products Technology**3 (2-3-5)***Prerequisite:* 1401343 or 1401101

Chemical composition and nutritional values of milk and milk product; processing and quality control; packaging; problems and prospects; study tour.

1403444 Technology of Meat, Poultry and Egg Products**3 (2-3-5)***Prerequisite:* 1401343 or 1401101

Physical and chemical composition of muscle food; slaughtering method; carcass dressing and appropriate storage method; pre- and post-mortem changes of meat; meat quality and factors affecting its quality; processing of muscle food products; poultry slaughtering; quality control of raw and frozen chicken; physical and chemical composition of egg; storage and quality control of egg; processing of egg products; problems and prospects; study tour.

1403445 Technology of Cereal Products**3 (2-3-5)***Prerequisite:* 1401343 or 1401101

Structure and chemical composition of cereal; processing and quality control; storage; utilization of waste materials; problems and prospects; study tour.

1403446 Bakery Technology**3 (2-3-5)***Prerequisite:* 1401343 or 1401101

Structure and chemical composition of flour; characteristics of ingredients; processing and quality control; packaging; problems and prospects; study tour.

1403447 Confectionery Technology**3 (2-3-5)***Prerequisite:* 1401343 or 1401101

Types of confectionery; characteristics of ingredients; processing and quality control; storage; problems and prospects; study tour.

1403448 Beverage Technology**3 (2-3-5)***Prerequisite:* 1401343 or 1401101

Raw materials selection; types of beverage; processing and quality control; standards and labeling; problems and prospects; study tour.

1403449 Waste Treatment and Utilization**3 (2-3-5)***Prerequisite:* 1401343 or 1401101

Types and problem of waste from industrial plants; characteristics and waste quality analysis; waste treatments and disposal; principles and utilization of waste and by-products for foods and non-foods; problems and prospects; study tour.

1403491 Seminar**1 (0-3-1)***Prerequisite:* None

Seminar on theories, practices and application of current food technology issues.

1403492 Special Problem**3 (0-9-3)***Prerequisite:* None

Conduct a special problem in the topic related to food technology under guidance of supervision; submission of final report and oral presentation.

1403493 Research Project in Food Technology**6 (0-40-12)***Prerequisite:* None

Undergraduate research on current issues of food technology under guidance of supervisor; practical works on scientific process; report writing and oral presentation.

1403495 Co-operative Education**6 (0-40-12)***Prerequisite: None*

Student could be preparing to work as a training worker or a temporary employee at the provided training organizations; included government and non-government organization, one semester according to student's major subject. After finish, students have to send and present academic report to the major's teachers. The evaluation criterias are based on the evaluation results from the advisor of co-operative education, the officer at the organization and student's academic report.

1403496 Overseas Training**6 (0-40-12)***Prerequisite: None*

Overseas training in organizations under university's supervision and evaluation.

1404251 Mathematical Concepts for Food Technology**3 (2-3-5)***Prerequisite: 1106104*

Algebra; interpolation of data in tables; graphs and curve fitting; calculus; problem solving; gases and vapors; mass balances; energy balances; use of the computer as a tool to solve problems.

1404351 Process Engineering**3 (2-3-5)***Prerequisite: 1106103 and 1104100*

Dimension and units; thermodynamics refrigeration; mass and energy balances-evaporation; fluid mechanics; heat transfer - heat exchanger; mass transfer.

1404352 Food Process Engineering**3 (2-3-5)***Prerequisite: 1401343 or 1401305*

Thermal food processing including canning, drying; food freezing; size reduction and screening; mixing; mechanical separation; contact equilibrium separation process extrusion technology; other processing methods, i.e. microwave heating, ohmic heating, high pressure processing and hurdle technology; shelf life of food products.

1404451 Plant Management and Logistics for Food-Industry**3 (3-0-6)***Prerequisite: 1401343*

Basic production layout format; definition and principle process layout, product layout, group technology layout and fixed-position layout; plant management; production and workforce planning; and energy conservation.

1404452 Instrument and Process Control**3 (2-3-5)***Prerequisite: 1404352*

Basic theory of analysis and design control system; PID control; sensor and instrumentation of process control e.g. temperature control, pressure control, level control, component control; and design of process control system for food processes.

1405101 Principles of Crop Produces**3 (3-0-6)***Prerequisite: None*

General principles of crop production; growth and development; growth regulations and hormones; pests and pest controls; plant propagation and varietal improvement; production of horticultural and field crops; postharvest handlings; agricultural extension; good agricultural practices.

1405102 Introduction to Postharvest Technology**2 (2-0-4)***Prerequisite: 1405101*

Importance of postharvest treatments for horticultural produces; postharvest loss and loss assessment; factors affecting loss; postharvest treatments.

1405211 Postharvest Physiology of Horticultural Crops**3 (2-3-5)***Prerequisite: 1103231*

Characteristics of horticultural produces; chemical compositions; development; respiration; postharvest hormonal changes; ethylene and fruit ripening; morphological and chemical changes; from maturity to senescence.

1405312 Postharvest Diseases and Insect Pests**3 (2-3-5)***Prerequisite: 1103211*

Importance of postharvest diseases and insect pests; infection and infestation; preharvest factors affecting postharvest produces; relationships of postharvest diseases and physiology of produces; host-parasite relationships; epidemiology; bacteria and fungi as causal agents; mycotoxins; physical; chemical and biological controls; importance postharvest diseases and insect pests of economic horticultural crops.

1405332 Management of Quality System of Horticultural Produces**2 (2-0-4)***Prerequisite: 1405101 or 1405102*

Physical and chemical qualities of horticultural produces; regulations and quality standards; quality evaluation and management for domestic and international markets; management systems and product quality assurance.

1405333 Postharvest Handling of Horticultural Produces**4 (3-3-7)***Prerequisite: 1405102*

Types of horticultural produces; preharvest factors affecting postharvest quality; harvest index; harvest; postharvest handling and transportation.

1405334 Postharvest Technology of Field Crops**3 (2-3-5)***Prerequisite: 1405333*

Importance and development of postharvest technology for fields in thailand; postharvest loss and problem solving; preharvest management; harvest; postharvest handling; storage and transportation; current issues.

1405403 Plant Growth Regulations**3 (2-3-5)***Prerequisite: 1103231*

Types of plants growth regulator; chemical and physical properties; advantages and harmful effects; current issues.

1405430 Postharvest Technology**3 (2-3-5)***Prerequisite: None*

Importance of postharvest technology; primary agricultural produces; postharvest loss and physiological changes; handling; packaging and transportation; problems and prospects.

1405432 Minimally Processed Fruits Vegetables**3 (2-3-5)***Prerequisite: 1405102 and 1405211 or (1405430)*

Preparation of perishable fruits and vegetables from fresh consumption; physiological and biochemical changes; microbial spoilage; quality and safety controls.

1405433 Horticultural Crops for Industry**3 (3-0-6)***Prerequisite: 1405102 and 1405211 or (1405430)*

Horticultural produces for industrial purposes; factors affecting yield and quality; storage of produces; preparation of produces for processing; business planning and management; problems and prospects.

1405461 Food Laws**2 (2-0-4)***Prerequisite: 1401343*

Industrial and labour laws; thai and international food laws and standards; regulations involving food production on safety consideration; labeling and advertisement; regulations for food additives; nutritional labels and related acts.

1405496 Seminar**1(0-3-1)***Prerequisite: None*

Seminar on theories, practices and application of current postharvest technology issues.

1405497 Special Problem Proposal**1(0-3-1)***Prerequisite: None*

Undergraduated research project in postharvest technology areas under supervision.

- 1405498 Special Problem** **3 (0-9-4)**
Prerequisite: None
 Undergraduated research project in postharvest technology areas under supervision.
- 1406201 Principles of Packaging** **2 (2-0-4)**
Prerequisite: None
 Principles of packaging; packaging materials; designs, forming, functions and importance; packaging systems; impact of packages to environments; standard and regulations; current issues and trends.
- 1406251 Packaging Material 1** **3 (3-0-6)**
Prerequisite: 1406201
 Types of packaging materials; structures; physical and chemical properties; relationship between structures and properties relative to applications; processing of packaging material.
- 1406252 Packaging Materials 2** **2 (2-0-4)**
Prerequisite: 1406251
 Choices of suitable packing materials relative to utilization; analyzing innovations of packaging materials.
- 1406353 Packaging Systems and Testing** **3 (2-3-5)**
Prerequisite: 1406251
 Systems of packaging technology and testing; processing and forming of packages; packaging testing including laboratory instruments.
- 1406354 Dynamics of Packaging** **3 (2-3-5)**
Prerequisite: 1406251
 Elementary mechanics including dropping, bumping and vibration; conditions and effect of transportation and distribution; structural packaging design; problems and prospects.
- 1406361 Packaging Design** **3 (2-3-5)**
Prerequisite: (1403202 or 1403261) and 1406251
 Principles of packaging design; international package design in relation to Thailand; global requirements; structural design for engineering applications; graphic design; use of color; logo design; cost evaluation; prospects.
- 1406362 Sensory Evaluation** **3 (2-3-5)**
Prerequisite: 1106282
 Fundamental of sensory science, principles of good practice for sensory evaluation, measuring responses, sensory method; discriminative test, descriptive test and affective test.
- 1406363 Food Product Development and Marketing** **3 (2-3-5)**
Prerequisite: 1401343 and 1106282
 Product development system and process; forecast of needs and trends of new products; product idea generation and screening; prototype product development; product evaluation and launching; marketing for new products; food marketing management system.
- 1406421 Packaging in Food Industry** **3 (2-3-5)**
Prerequisite: 1406201
 Food contamination from packaging; choices of packaging materials related to safety of consumers; various types of food packaging; current issues and trends.
- 1406431 Package Printing** **3 (2-3-5)**
Prerequisite: 1406353
 Types of printing systems; methods and systems for specific materials; converting processes of materials; coloring techniques in printing.
- 1406441 Packaging Economics** **3 (3-0-6)**
Prerequisite: 1202101 and 1406201
 Economic analysis of packaging; cost; price; investment; marketing; relationship between economic policy and industrial demand; current issues and prospects.

1406442 Packaging for Transportation**3 (2-3-5)***Prerequisite: 1406354*

Types of packaging and transportation; packaging for wholesale and retail markets; management; custom regulations and clearance procedures; delivery; damages and insurance; problems and trends.

1407211 Postharvest Physiology**4 (3-3-7)***Prerequisite: 1103102*

Structures of plant cells; water and nutrient transport; photosynthesis; respiration; growth and development, metabolism, responses to stimulants, characteristics of produces; chemical compositions; postharvest hormonal changes; ethylene and fruit ripening; morphological and chemical changes from maturity to senescence, moisture loss, physiological disorder.

1407291 Agricultural Training**1 (0-7-1)***Prerequisite: None*

Training in basic crop production, harvesting and postharvest handling.

1407311 Postharvest Pathology and Entomology**3 (2-3-5)***Prerequisite: 1103211*

Importance of postharvest diseases and insect pests; infection and infestation; preharvest factors affecting postharvest produces; relationships of postharvest diseases and physiology of produces; host-parasite relationships; epidemiology; bacteria and fungi as causal agents; mycotoxins; physical, chemical and biological; important postharvest diseases and insect pests of economic horticultural crops.

1407341 Postharvest Technology and Handling**4 (2-6-6)***Prerequisite: 1407211*

Importance of postharvest technology and handling of horticultural and field crops; postharvest loss, postharvest loss assessment, factors of postharvest loss; types of horticultural and field crops; quality of horticultural crops; effects preharvest factors; harvest indices; harvesting; packing house operations, cleaning, cooling, trimming, sorting, packaging, storage; transportation.

1407342 Minimally Processed Fruit and Vegetables**3 (2-3-5)***Prerequisite: 1401204 and 1401203*

Preparation of fruits and vegetables for fresh consumption; i.e. cleaning, peeling, trimming, size reduction, packing and cooling; physiological and biochemical changes of fruits and vegetables; microbiological spoilage; keeping quality of fresh fruits and vegetables; and food safety.

1407361 Postharvest Operation and Marketing**3 (3-0-6)***Prerequisite: 1407241*

Marketing concepts; strategy and environment; consumer and organisational buying behaviour; product development for fresh produces; supply chain concepts; logistics management; application of marketing theory for postharvest operation.

1407401 Plant Growth Regulators**3 (2-3-5)***Prerequisite: 1407211*

Types of plants growth regulator; chemical and physical properties; advantages and harmful effects; current issues.

1407441 Postharvest Technology for Ornamental Crops**3 (2-3-5)***Prerequisite: 1401204 and 1401203*

Introduction; harvesting; postharvest handling; quality and standardization; factors affecting quality and vase life; postharvest physiology of ornamental plants; postharvest treatment for quality improvement and vase life extending; precooling and transportation; storage, retail market management; postharvest technology for some cut flowers, foliages and potted plants; flower decoration.

1407442 Extending Shelf Life for Meat**3 (2-3-5)***Prerequisite: 1401204 and 1401203*

Fundamentals in live animal evaluation, slaughter, fabrication, fresh meat, and by product utilization; physical, chemical, physiological, and microbiological properties of meat as related to meat composition, quality, nutrition, and safety; methods for maintaining high quality of fresh meat.

1407491 Seminar**1 (0-3-1)***Prerequisite: None*

Seminar on theories, practices and applications of current postharvest and packaging technology issues.

1407492 Special Problem**3 (0-9-3)***Prerequisite: None*

Undergraduated research project in postharvest and packaging technology areas under supervision; submission of final report and oral presentation.

1407493 Research Project in Postharvest and Packaging Technology**6 (0-40-12)***Prerequisite: None*

Undergraduate research on current issues of postharvest and packaging technology under guidance of supervisor; practical works on scientific process; report writing and oral presentation.

1407494 Problems Solving System for Postharvest and Packaging Technology 3 (0-9-3)*Prerequisite: 1407241*

Study and solve the problems related to postharvest and packaging technology in fresh produces industry e.g. exporters of fresh fruit, vegetable and ornamental, retail and wholesale markets, which under supervised from the industry and staffs from Agro-industry school.

1407495 Co-operative Education**6 (0-40-12)***Prerequisite: None*

Student could be preparing to work as a training worker or a temporary employee at the provided training organizations; included government and non-government organization, one semester according to student's major subject. After finish, students have to send and present academic report to the major's teachers. The evaluation criterias are based on the evaluation results from the advisor of co-operative education, the officer at the organization and student's academic report.

1407496 Overseas Training**6 (0-40-12)***Prerequisite: None*

Overseas training in organizations under university's supervision and evaluation.

1408201 Principles of Packaging**2 (2-0-4)***Prerequisite: None*

Principles of packaging; packaging materials; designs, forming, functions and importance; packaging systems; impact of packages to environments; standard and regulations; current issues and trends.

1408241 Packaging Materials and Application**4 (3-3-7)***Prerequisite: 1408201*

Types of packaging materials; structures; chemical and physical properties of packaging materials; relationships between structures and packaging material properties involving to their applications; and processing of packaging materials.

1408341 Packaging System and Testing**3 (2-3-5)***Prerequisite: 1408241*

System of packaging technology and testings; processing and forming of packages; packaging testing.

1408342 Packaging for Fresh Produce**3 (2-3-5)***Prerequisite: 1408201*

Principles and application of modified atmosphere packaging, active packaging, and edible coating.

1408371 Packaging Design**3 (2-3-5)***Prerequisite: 1401251 and 1408201*

History of packaging design; packages in Europe, America, Asia and Thailand; principles of packaging design; structural design for engineering applications; shaping and color used for packaging; logo design; disposition of logo and letter on package; and cost evaluation.

1408441 Packaging for Transportation**3 (2-3-5)***Prerequisite: 1408201*

Types of packaging and transportation; packaging for wholesale and retail markets; management; custom regulations and clearance procedures; delivery; damages and insurance; problems and trends.

1408442 Packaging in Food Industry**3 (2-3-5)***Prerequisite: 1408201*

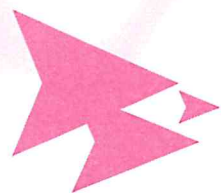
Food contamination from packaging; safety concerned on packaging utilization; and various types of food packaging.

1408443 Printing Technology for Package**3 (2-3-5)***Prerequisite: 1408341*

Types and selection of colors for printing; method and system of material printings and packages.

1408444 Natural Materials for Packaging**3 (2-3-5)***Prerequisite: 1408201*

Types and properties of natural materials; natural coating materials; edible films and coatings; preparation of raw materials; production and applications of packages from natural materials.



School of Cosmetic Science

► Cosmetic Science

► Beauty Technology

School of Cosmetic Science

Mae Fah Luang University

The School of Cosmetic Science was established in January 2005 as the first academic institute to serve the needs of the large population of cosmetic professionals in Thailand and Asia. The School is responsible for creating skillful specialist of commercial products formulation in the cosmetic industry. It enables practitioners to learn the fundamental sciences and the latest advances in cosmetic science and encourage students to develop advanced skills that lead to senior assignments in the cosmetic business and also gear to cosmetic chemists aspiring to supervisory roles in the laboratory or plant.

The school offers the following programs:

Bachelor of Science, B.Sc. (Cosmetic Science)
Bachelor of Science, B.Sc. (Beauty Technology)

Cosmetic Science Program

The cosmetic science program is designed to offer the knowledge background and professional skill in cosmetic manufacturing industry. The course structure consists of comprehensive series of fundamental science subjects and advanced courses in cosmetic science and related fields. In addition, the course will also emphasize on marketing and management of cosmetic products to enable students to broaden their skills.

Beauty Technology Program

The beauty technology program is designed to focus on the specialist needs of the beauty industry. The course has been developed to deliver beauty technology for students aspiring to careers in all aspects of the beauty industry. The program is designed to cover all phases of beauty technology including a basic understanding of the chemistry of the skins and hair, as well as the practical application of the required operation such as facial treatments, make-up application, spa treatments and beauty therapy.



Bachelor of Science Program in Cosmetic Science B.Sc.(Cosmetic Science)

Total Credit	130 Credits
1. General Education Courses	30 Credits
2. Specific Requirement Courses	94 Credits
2.1 Core Courses	35 Credits
2.2 Major Required Courses	50 Credits
2.3 Major Elective Courses	9 Credits
3. Free Elective Courses	6 Credits

1. General Education Courses

30 Credits

Cr(Le-Pr-SS)*

1001101	Man and Society	2 (2-0-4)
1001112	Logical Thinking	2 (1-2-3)
1001121	Recreation and Sport for Well-Being	1 (0-2-1)
1001122	Personal and Community Health	2 (2-0-4)
1001131	World Community	2 (2-0-4)
1001141	General Psychology	3 (3-0-6)
1006217	English for Communication	3 (2-2-5)
1006218	Academic Reading and Writing	3 (2-2-5)
1006301	College Writing	2 (2-0-4)
1006302	Academic Oral Skills	2 (2-0-4)
1006303	English for Professional Purposes	1 (0-2-1)
1006304	English for Professional Success	1 (0-2-1)
1301104	Introduction to Information Technology	3 (2-2-5)
1601101	Introduction to Legal Principles	3 (3-0-6)

2. Specific Requirement Courses

94 Credits

2.1 Core Courses

35 Credits

Cr(Le-Pr-SS)*

1102101	General Chemistry 1	3 (2-3-5)
1102102	General Chemistry 2	3 (2-3-5)
1102210	Principles of Analytical Chemistry	3 (2-3-5)
1102230	Principles of Organic Chemistry	3 (2-3-5)
1102250	Principles of Biochemistry	3 (2-3-5)
1103101	General Biology 1	3 (2-3-5)
1103102	General Biology 2	3 (2-3-5)
1103211	Microbiology	4 (3-3-7)
1106103	Mathematics 1	3 (3-0-6)
1106282	Statistics and Experimental Design	3 (3-0-6)
1701100	Introduction to Physiology	2 (2-0-4)
1701201	Introduction to Pharmacology	2 (2-0-4)

2.2 Major Requirement Courses

50 Credits

Cr(Le-Pr-SS)*

1701200	Introduction to Cosmetic Science	2 (2-0-4)
1701300	Cosmetic Laws and Ethic	2 (2-0-4)
1701311	Dietary Supplement	2 (2-0-4)
1701321	Microbial Toxicology and Biochemistry in Cosmetics	3 (2-3-5)
1701322	Dermal Pharmacology and Immunology	2 (2-0-4)
1701331	Cosmetic Innovation	2 (2-0-4)
1701332	Evaluation of Cosmetic Product	3 (2-3-5)
1701341	Cosmetic Marketing	2 (2-0-4)
1701342	Consumer Protection on Cosmetics	2 (2-0-4)
1701351	Aromatic Science	4 (3-3-7)
1701352	Cosmetic Science for Hair Care	4 (3-3-7)
1701353	Cosmetic Science for Skin Care	4 (3-3-7)

1701354	Color Cosmetic Science	4 (3-3-7)
1701491	Industrial Visit	2 (0-6-2)
1701492	Co-operative Education	9 (0-40-18)
1701498	Special Project and Seminar	3 (0-9-3)

2.3 Major Elective Courses

Select from the following		9 Credits Cr(Le-Pr-SS)*
1103312	Industrial Microbiology	3 (2-3-5)
1105321	Plant Biotechnology	4 (3-3-7)
1105341	Medical and Pharmaceutical Biotechnology	2 (2-0-4)
1105432	Yeast Biotechnology	3 (2-3-5)
1105461	Plant Secondary Metabolites	3 (2-3-5)
1203103	Statistics and Research Method for Business	3 (3-0-6)
1203141	Organization and Management	2 (2-0-4)
1203332	Business Venture and Entrepreneurship	3 (3-0-6)
1401341	Food Quality Assurance	3 (2-3-5)
1401342	Food Plant Sanitation and Food Safety	3 (2-3-5)
1403251	Physical Properties of Biomaterials	3 (2-3-5)
1406201	Principles of Packaging	2 (2-0-4)
1701312	Herbal Cosmetics	3 (2-3-5)
1701313	Natural Products in Cosmetics	3 (2-3-5)
1701411	Prebiotics and Probiotics	3 (2-3-5)
1701431	Clinical Trials of Cosmetics	3 (2-3-5)
1701451	Biotechnology in Cosmetic Science	3 (2-3-5)

3. Free Elective Courses not less than

		6 Credits Cr(Le-Pr-SS)*
xxxxxxx	Free Elective	3 (3-0-6)
xxxxxxx	Free Elective	3 (3-0-6)

At least six credits of free electives can be chosen from any course offered by Mae Fah Luang University.

* Cr : Credit
Le : Lecture
Pr : Practice
SS : Self Study



Bachelor of Science Program in Beauty Technology B.Sc. (Beauty Technology)

Total Credit	130	Credit
1. General Education Courses	30	Credit
2. Specific Requirement Courses	94	Credit
2.1 Core Courses	22	Credit
2.2 Major Required Courses	63	Credit
2.3 Major Elective Courses	9	Credit
3. Free Elective Courses	6	Credit

1. General Education Courses

	30	Credits
	Cr(Le-Pr-SS)*	
1001101	Man and Society	2 (2-0-4)
1001103	Thai Language Skills	2 (2-0-4)
1001112	Logical Thinking	2 (1-2-3)
1001141	General Psychology	3 (3-0-6)
1006217	English for Communication	3 (2-2-5)
1006218	Academic Reading and Writing	3 (2-2-5)
1006301	College Writing	2 (2-0-4)
1006302	Academic Oral Skills	2 (2-0-4)
1006303	English for Professional Purposes	1 (0-2-1)
1006304	English for Professional Success	1 (0-2-1)
1106100	Mathematics for Life	3 (3-0-6)
1301104	Introduction to Information Technology	3 (2-2-5)
1601101	Introduction to Legal Principles	3 (3-0-6)

2. Specific Requirement Courses

94 Credits

2.1 Core Courses

	22	Credits
	Cr(Le-Pr-SS)*	
1102100	Principles of Chemistry	3 (2-3-5)
1103100	Principles of Biology	3 (2-3-5)
1104100	Principles of Physics	3 (2-3-5)
1106281	Probability and Statistics	3 (3-0-6)
1701100	Introduction to Physiology	2 (2-0-4)
1701201	Introduction to Pharmacology	2 (2-0-4)
1703206	Basic Human Anatomy and Physiology for Beauty	3 (3-0-6)
1802102	Principles of Biochemistry for Health Science	3 (2-3-5)

2.2 Major Required Courses

	63	Credits
	Cr(Le-Pr-SS)*	
1701200	Introduction to Cosmetic Science	2 (2-0-4)
1701311	Dietary Supplement	2 (2-0-4)
1701322	Dermal Pharmacology and Immunology	2 (2-0-4)
1701351	Aromatic Science	4 (3-3-7)
1703201	Orientation to Beauty Technology	2 (2-0-4)
1703202	Herb for Health and Aesthetics	2 (2-0-4)
1703203	Facial Treatment	4 (3-3-7)
1703204	Hair Design and Make-up Application	3 (2-2-5)
1703205	Beauty Salon and Spa Management	2 (2-0-4)
1703301	Manicure and Pedicure	3 (2-2-5)
1703302	Thai Traditional Therapeutic Massage for Aesthetics	2 (1-2-3)
1703303	Personality Development	2 (2-0-4)
1703304	Introduction to Spa	4 (3-3-7)
1703305	Body Treatment	4 (3-3-7)
1703306	Depilatory Technique	2 (1-2-3)
1703307	Beauty Marketing	2 (2-0-4)

1703401	Advance Technology for Beauty	4 (3-3-7)
1703402	Anti-aging and Rejuvenation Medicine	3 (2-2-5)
1703403	Special Project and Seminar	3 (0-9-3)
1703404	Industrial Visit	2 (0-6-2)
1703491	Co-operative Education	9 (0-40-18)
1703492	Overseas Training	9 (0-40-18)
1703493	Research Project in Beauty Technology	9 (0-40-18)

2.3 Major Elective Courses

		9 Credits
		Cr(Le-Pr-SS)*
1203103	Statistics and Research Method for Business	3 (3-0-6)
1203141	Organization and Management	2 (2-0-4)
1203332	Business Venture and Entrepreneurship	3 (3-0-6)
1703308	Weight Control	3 (2-2-5)
1703309	Reflexology	3 (2-2-5)
1703310	Music Therapy	3 (2-2-5)
1703311	Holistic Care and Alternative Medicine	3 (2-2-5)

3. Free Elective Courses not less than

		6 Credits
		Cr(Le-Pr-SS)*
xxxxxxx	Free Elective	3 (3-0-6)
xxxxxxx	Free Elective	3 (3-0-6)

At least six credits of free electives can be chosen from any course offered by Mae Fah Luang University.

* Cr : Credit
 Le : Lecture
 Pr : Practice
 SS : Self Study

Descriptions::

School of Cosmetic Science

1701100 Introduction to Physiology

2 (2-0-4)

Prerequisite: None

Fundamental knowledge of human physiology and body; homeostasis; physiological structures; nerve and endocrine systems.

1701200 Introduction to Cosmetic Science

2 (2-0-4)

Prerequisite: None

Definition; history and development of cosmetic science; role of society cosmetic chemist Thailand; quality assurance; morals and ethics.

1701201 Introduction to Pharmacology

2 (2-0-4)

Prerequisite: None

Efficacy of drugs and chemicals to human organs; drug absorption, distribution, metabolism and excretion; reaction of drugs and chemicals, side effect and toxicity.

1701300 Cosmetic Laws and Ethics

2 (2-0-4)

Prerequisite: None

Introduction to laws; emphasis on cosmetic products and manufacturing; ethics.

1701311 Dietary Supplement

2 (2-0-4)

Prerequisite: 1701200

Types of dietary supplements; structures and properties; production process; quality control; probiotics; trends and current issues related to dietary supplements.

1701312 Herbal Cosmetic Products

3 (2-3-5)

Prerequisite: 1701200

History and use of herb, medical plant; development, product process and quality control; emphasis Thai native plants applications and trends.

1701313 Natural Products in Cosmetics

3 (2-3-5)

Prerequisite: 1701200

Types of natural product used in cosmetic; sources; structures, properties and applications; current topics.

1701321 Microbial Toxicology and Biochemistry in Cosmetics

3 (2-3-5)

Prerequisite: 1103211 and 1102250

Microbial contamination and toxicity in cosmetic products; effects of toxins on human metabolism.

1701322 Dermal Pharmacology and Immunology

2 (2-0-4)

Prerequisite: None

Structure, function and immunological system of skin; application of cosmetic products and their impacts; principles of pharmacology; skin safety testing.

1701331 Cosmetic Innovation

2 (2-0-4)

Prerequisite: 1701200

Innovation of cosmetic products and packaging; regulation of Food and Drug Administration (FDA); business plan.

1701332 Evaluation of Cosmetic Products

3 (2-3-5)

Prerequisite: None

Principles of cosmetic products evaluation; methodology and analysis; safety and satisfactory of consumer; bioinstrumentation; scheme of operation process(sop's) claims substantiation.

- 1701341 Cosmetic Marketing** **2 (2-0-4)**
Prerequisite: None
 Fundamental of cosmetic marketing; marketing mixed; marketing shared; marketing research and consumer behavior.
- 1701342 Consumer Protection on Cosmetics** **2 (2-0-4)**
Prerequisite: None
 Fundamental of consumer protection laws; role of manufacturers and government sections on advertising and product liability.
- 1701351 Aromatic Science** **4 (3-3-7)**
Prerequisite: 1701200
 History and development of perfumes and aromatherapy; raw materials used; production processes; chemical and qualitative analysis; sensory evaluation.
- 1701352 Cosmetic Science for Hair Care** **4 (3-3-7)**
Prerequisite: 1701200
 Structure of hair and skin; haircares and cosmetic applications; shampoos, conditioners tonics and hair colors; raw material processing; and packaging; quality control.
- 1701353 Cosmetic Science for Skin Care** **4 (3-3-7)**
Prerequisite: 1701200
 Structure of skin; skincare and cosmetic applied moisturizer; antiaging cream; whitening products; raw materials; processes and packaging; quality controls.
- 1701354 Color Cosmetic Science** **4 (3-3-7)**
Prerequisite: 1701200
 Types of color and make up products; hair colors; face make up; raw material used; process and packaging; quality control.
- 1701411 Prebiotics and Probiotics** **3 (2-3-5)**
Prerequisite: 1701200
 Definition of prebiotics and probiotics; discovery, development and applications; importance and health benefit as dietary supplement.
- 1701412 Research and Development of Cosmetic Formulation** **3 (2-3-5)**
Prerequisite: 1701351, 1701352, 1701353 and 1701354
 Concept of cosmetic product development; product feature approach; product claims and claim support approach; sensory test of cosmetic product; marketing and business plan.
- 1701431 Clinical Trials of Cosmetic Products** **3 (2-3-5)**
Prerequisite: 1701200
 Qualitative and quantitative analysis of cosmetic products; theory, development and application; standard protocol of animal and human testing.
- 1701451 Biotechnology in Cosmetics Science** **3 (2-3-5)**
Prerequisite: 1701200
 Current topics related to biotechnological use in cosmetic science, i.e. Genetic engineering, biopolymer production, microencapsulation and drug delivery systems.
- 1701491 Industrial Visit** **2 (0-6-2)**
Prerequisite: None
 Study visit at industrial factories or research institutes related to cosmetic science; report, presentation and discussion of the visits.
- 1701492 Co-operative Education** **9 (0-40-18)**
Prerequisite: None
 Student could be preparing to work as a training worker or a temporary employee at the provided training organizations; included government and non-government organization, one semester according to student's major subject. After finish, students have to send and present academic report to the major's teachers. The evaluation criterias are based on the evaluation results from the advisor of co-operative education, the officer at the organization and student's academic report.

1701498 Special Project and Seminar**3 (0-9-3)***Prerequisite: None*

Academic project resulting in a report, presentation and seminar to demonstrate synthesis of student's coursework.

1703201 Orientation to Beauty Technology**2 (2-0-4)***Prerequisite: None*

Definition, history and development of beauty technology, Quality Assurance, Morals and Ethics.

1703202 Herb for Health and Aesthetics**2 (2-0-4)***Prerequisite: None*

Botanical characteristic, sources, important ingredients, pharmacological activities, part and uses, quality control and standards of herbs, herb for cosmetics, weight control, nutraceutical and beverage.

1703203 Facial Treatment**4 (3-3-7)***Prerequisite: None*

Anatomy and physiology of skin, skin care, aging process of skin, the effect of free radicals and environmental condition on the skin, face mask and exfoliation, common skin problems: acne and melasma and skin care products.

1703204 Hair Design and Make-up Application**3 (2-2-5)***Prerequisite: None*

Properties of the hair and scalp, hair types, principles of hair design, principles of hairstyling, preparation of tools, equipment and products for shampooing, rinsing and conditioning, haircutting, haircoloring and hair trends, face analysis, tools and equipment, make-up products, principles of corrective make-up.

1703205 Beauty Salon and Spa Management**2 (2-0-4)***Prerequisite: None*

Management of aesthetic and health business, entrepreneurship, strategic management, human resource management, budget plan, business planning, project management, marketing, financing, accounting, taxing, market forecasting, feasibility evaluation of plan or project, outcome evaluation, ethics in aesthetic and health business.

1703207 Makeover**3 (2-2-5)***Prerequisite: None*

Fundamental of Makeover to: The history of Beautification, Cosmetology, beauty culture, anatomy of the face, skin analysis skin structure, determining your skin type, type of skins, type of skin colors, face structures, the proper implements and make-up supplies, make-up tools, basic facial treatments, basic makeover techniques, corrective facial structures makeover techniques, the professional approach to applying advance makeover, personality makeover, makeover style in different occasion, create the illusion of makeover, professional makeover, special effects for young and mature faces, nude look, fashion look, bride makeover, drama makeover, the past and beauty culture makeover, media and movie makeover and aftercare advice.

1703301 Manicure and Pedicure**3 (2-2-5)***Prerequisite: None*

Anatomy and physiology of skin and nail, principles and procedures in nail treatment, manicure and pedicure, nail art, nail extension and related problems.

1703302 Thai Traditional Therapeutic Massage for Aesthetics**2 (1-2-3)***Prerequisite: None*

History of Thai massage, ethics, principles and methods, indications and cautions, finger strengthening exercises, techniques and practice.

1703303 Personality Development**2 (2-0-4)***Prerequisite: None*

Principles and personality development including internal and external character, adaptation, caring and prevention from health and beauty risk.

1703304 Introduction to Spa**4 (3-3-7)***Prerequisite: None*

Definition of spa and spa business, types of spa, services in spa business; aromatherapy, massage, body treatment, hydrotherapy, thermotherapy; spa products; small spa business setting and ethics in spa business.

1703305 Body Treatment**4 (3-3-7)***Prerequisite: None*

Principles of body treatment and massage for beauty, products, tools and equipment for body treatment, skin cleansing, skin warming, skin exfoliation, massage, skin mask and related problems.

1703306 Depilatory Technique**2 (1-2-3)***Prerequisite: None*

Basic hair terminology, hair structure, principles and procedures in hair removal and related problems.

1703307 Beauty Marketing**2 (2-0-4)***Prerequisite: None*

Marketing and Promoting, service marketing, identifying the need for additional products and services, marketing research, marketing shared fundamental of marketing strategy, marketing mixed and trends in service.

1703308 Weight Control**3 (2-2-5)***Prerequisite: None*

Body and health evaluation, obesity and risk to disease, factors of obesity, training for leader of physical activity, treatment and program for weight loss, psychological effect of weight loss and exercise, problem in weight loss program and its correction.

1703309 Reflexology**3 (2-2-5)***Prerequisite: None*

Reviews of anatomy and physiology of the feet, preparation of tools, equipment and products, assessing the need and requirements of the client and treatment planning, principle of reflexology, acupressure for 26 internal organs reflection, massage recording and ethics.

1703310 Music Therapy**3 (2-2-5)***Prerequisite: None*

Definition, history and theory of music therapy, music adjustment in order to perception, factors, types for application and usefulness in health promotion and beauty.

1703311 Holistic Care and Alternative Medicine**3 (2-2-5)***Prerequisite: None*

Principles of holistic care and alternative medicine for beauty and health promotion, acupressure, acupuncture, shiatsu, reiki, ayurveda and health and beauty therapies.

1703312 Hair Design and Depilatory Technique**2 (1-2-3)***Prerequisite: None*

Fundamental of Hair Design and Depilatory Technique: The History of Hair, hair structure, anatomy for the head, the scalp, type of hair, hair apparent, scalp manipulations, the proper implements and hair supplies, scalp treatments, the additional nutriment, curvature hair styling, hair shaping, hair styling, hair partings, curvature hairstyling, permanent waving-chemical waving, Hair bleaching, hair coloring, Hair cutting techniques and basic hair terminology, alternative methods of hair removal, waxing products, waxing methods, lightening of superfluous hair, contra-indications and safety precautions relevant to waxing, sugaring, bleaching and lightening treatments, and aftercare advice.

1703401 Advance Technology for Beauty**4 (3-3-7)***Prerequisite: None*

Principles of advanced technology for aesthetics, types and principles of aesthetic instruments, treatment evaluation, selection of some aesthetic instrument and/or apparatus, contraindications, indications, precautions and use of instrument and apparatus, law and practice guidelines related to instrument and apparatus used.

1703402 Anti-aging and Rejuvenation Medicine**3 (2-2-5)***Prerequisite: None*

An overview of anti-aging and regenerative medicine: anamnesis, physical examination and evaluation of aging client, medical treatment, hormone replacement therapy, nutrition, oxidative stress, dietary supplement for anti-aging.

1703403 Special Project and Seminar**3 (0-9-3)***Prerequisite: None*

Academic project resulting in a report, presentation and seminar to demonstrate synthesis of student's coursework.

1703404 Industrial Visit**2 (0-6-2)***Prerequisite: None*

Study visit at industrial factories or research institutes related to Beauty Technology; report, presentation and discussion of the visits.

1703405, 1703406, 1703407

1703491 Co-operative Education**9 (0-40-18)***Prerequisite: None*

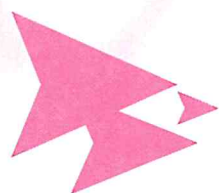
Student could be preparing to work as a training worker or a temporary employee at the provided training organizations; included Government and Non-Government Organization, one semester according to student's major subject. After finish, students have to send and present academic report to the major's teachers. The evaluation criterias are based on the evaluation results from the advisor of Co-operative Education, the officer at the organization and student's academic report.

1703492 Overseas Training**9 (0-40-18)***Prerequisite: None*

Overseas training in organizations under university's supervision and evaluation.

1703493 Research Project in Beauty Technology**9 (0-40-18)***Prerequisite: None*

Undergraduate research on current issues of Beauty Technology under guidance of supervisor; practical works on scientific process; report writing and oral presentation.



School of Health Science

- **Applied Thai Traditional Medicine**
- **Physical Therapy**
- **Public Health**

School of Health Science

Mae Fah Luang University

The School of Health Science's mission is to produce graduates in branches of health science that will best serve the needs of the country. Our guiding principles are the wishes of the late Princess Mother to improve the health and quality of life in rural Thailand, which enable us at the same time to respond to the challenge of "Health for All" policy.

The School offers the following academic programs:

Bachelor degree programs for:

Applied Thai Traditional Medicine (B.ATM.)
Physical Therapy (B.PT.)
Public Health (B.P.H.)

Bachelor of Applied Thai Traditional Medicine

This program teaches the application of Thai traditional medicine, integrating the knowledge of modern medical science, emphasizing a holistic approach in providing treatment and care to suit individual needs. A basic knowledge of alternative and complementary medicine (e.g., equilibriopathy, acupuncture, Ayurvedic) is also taught.

Bachelor of Physical Therapy

This program aims to produce qualified physical therapists who are proficient in the assessment, diagnosis, prevention, treatment, and rehabilitation of disabilities of the musculoskeletal, neurological, cardio-respiratory systems in adults and children, including health promotion with a holistic approach.

Bachelor of Public Health

This program aims to produce qualified public health officers whose expertise is in epidemiology, control and prevention of diseases, health promotion, and an ability to apply basic clinical knowledge to primary care.



1. General Education Courses	
1001101	Man and Society
1001141	General Psychology
1001103	Thai Language Skills
1006217	English for Communication
1006218	Academic Reading and Writing
1006301	College Writing
1006302	Academic Oral Skills
1006303	English for Professional Purposes
1006304	English for Professional Success
1102100	Principles of Chemistry
1103100	Principles of Biology
1104100	Principles of Physics
1301104	Introduction to Information Technology

1802332	Thai Traditional Medicine 3	3 (2-2-5)
1802335	Practice in Thai Traditional Medicine 1	3 (0-6-3)
1802336	Practice in Thai Traditional Medicine 2	3 (0-6-3)
1802341	Thai Traditional Pharmacy 2	3 (2-2-5)
1802342	Thai Traditional Pharmacy 3	3 (2-2-5)
1802353	Thai Traditional Therapeutic Massage and Manipulation 2	3 (2-3-5)
1802354	Thai Traditional Therapeutic Massage and Manipulation 3	3 (2-3-5)
1802403	Integrated Experiences in Applied Thai Medicine	3 (0-12-3)
1802416	Clinical Practice for Applied Thai Traditional Medicine 1	3 (0-6-3)
1802417	Clinical Practice for Applied Thai Traditional Medicine 2	3 (0-6-3)
1802446	Practice in Thai Traditional Pharmacy 1	3 (0-6-3)
1802447	Practice in Thai Traditional Pharmacy 2	3 (0-6-3)
1802456	Practice in Thai Traditional Therapeutic Massage and Manipulation 1	3 (0-6-3)
1802457	Practice in Thai Traditional Therapeutic Massage and Manipulation 2	3 (0-6-3)

2.3 Major Elective Courses

	Select from the following	10 Credits Cr(Le-Pr-SS)*
1801212	Food and Nutrition	2 (2-0-4)
1801405	Equilibriopathy	3 (2-3-5)
1802104	Health Promotion	2 (2-0-4)
1802214	Applied Thai Traditional Medicine for Sports Injury	3 (2-2-5)
1802412	Naturopathy	3 (3-0-6)
1802413	Complementary and Alternative Medicine	3 (2-2-5)
1802418	Selected Topics in Applied Thai Traditional Medicine	3 (0-6-3)

3. Free Elective Courses not less than

		6 Credits Cr(Le-Pr-SS)*
xxxxxxx	Free Elective	3 (3-0-6)
xxxxxxx	Free Elective	3 (3-0-6)

At least six credits of free electives can be chosen from any course offered by Mae Fah Luang University.

* Cr : Credit
Le : Lecture
Pr : Practice
SS : Self Study

Total Credit	138 Credits
1.General Education Courses	30 Credits
2.Specific Requirement Courses	102 Credits
2.1 Core Courses	30 Credits
2.2 Major Required Courses	72 Credits
3. Free Elective Courses	6 Credits

1803307	Physical Therapy in Cardiopulmonary 2	2 (1-2-3)
1803308	Therapeutic Exercise 1	3 (2-2-5)
1803309	Therapeutic Exercise 2	3 (2-2-5)
1803311	Hydrotherapy	1 (0-2-1)
1803314	Clinical Practicum in Physical Therapy 2	2 (0-10-2)
1803315	Clinical Practicum in Physical Therapy 3	2 (0-10-2)
1803316	Clinical Practicum in Physical Therapy 4	4 (0-16-4)
1803401	Physical Therapy in Children	3 (2-2-5)
1803402	Physical Therapy in Woman and the Elderly	2 (1-2-3)
1803403	Physical Therapy in Sports	3 (1-6-3)
1803404	Physical Therapy in the Community	3 (1-6-3)
1803405	Seminar in Current Topics	1 (0-3-1)
1803406	Clinical Practicum in Physical Therapy 5	3 (0-12-3)
1803407	Clinical Practicum in Physical Therapy 6	6 (0-24-6)

3. Free Elective Courses not less than

6 Credits
Cr(Le-Pr-SS)*
 3 (3-0-6)
 3 (3-0-6)

xxxxxxx Free Elective
 xxxxxxx Free Elective

At least six credits of free electives can be chosen from any course offered by Mae Fah Luang University.

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Bachelor of Public Health Program B.P.H.

Total Credit

1. General Education Courses	140 Credits
2. Specific Requirement Courses	30 Credits
2.1 Core Courses	104 Credits
2.2 Major Required Courses	39 Credits
2.3 Major Elective Courses	56 Credits
3. Free Elective Courses	9 Credits
	6 Credits

1. General Education Courses

	30 Credits Cr(Le-Pr-SS)*
1001101 Man and Society	2 (2-0-4)
1001103 Thai Language Skills	2 (2-0-4)
1001111 Cultural Studies	2 (2-0-4)
1001141 General Psychology	3 (3-0-6)
1006217 English for Communication	3 (2-3-5)
1006218 Academic Reading and Writing	3 (2-3-5)
1006301 College Writing	2 (2-0-4)
1006302 Academic Oral Skills	2 (2-0-4)
1006303 English for Professional Purposes	1 (0-2-1)
1006303 English for Professional Success	1 (0-2-1)
1101100 Science for Life	3 (3-0-6)
or	
1106100 Mathematics for Life	3 (3-0-6)
1301104 Introduction to Information Technology	3 (2-2-5)
1803102 Health Economics	3 (3-0-6)

2. Specific Requirement Courses

104 Credits

2.1 Core Courses

	39 Credits Cr(Le-Pr-SS)*
1102100 Principles of Chemistry	3 (2-3-5)
1103100 Principles of Biology	3 (2-3-5)
1802102 Principles of Biochemistry for Health Science	3 (2-3-5)
1802203 Pathophysiology	3 (2-2-5)
1802209 Anatomy and Physiology 1	3 (2-2-5)
1802210 Anatomy and Physiology 2	3 (2-2-5)
1804103 Public Health Microbiology	3 (2-2-5)
1804201 Public Health Parasitology	3 (2-2-5)
1804206 Public Health Virology and Immunology	3 (2-2-5)
1804301 Infectious Disease and Control	3 (3-0-6)
1804302 Non-Infectious Disease and Prevention	3 (3-0-6)
1804307 Emerging Disease and Control	3 (3-0-6)
1804311 Biostatistics	3 (3-0-6)

2.2 Major Required Courses

	56 Credits Cr(Le-Pr-SS)*
1801302 Research in Health Science	3 (2-2-5)
1804101 Mental Health	3 (3-0-6)
1804102 Introduction to Public Health	2 (2-0-4)
1804202 Public Health Administration	3 (3-0-6)
1804204 Oral Health	2 (2-0-4)
1804205 Principles of Health Promotion	3 (3-0-6)
1804207 Occupational Health and Safety	3 (3-0-6)
1804303 Public Health Behavioral Science	3 (3-0-6)
1804304 First Aid	3 (2-2-5)
1804305 Principles of Illness Prevention	2 (1-3-3)
1804306 Public Health Pharmacy	3 (3-0-6)

1804308	Professional Ethics in Public Health	2 (2-0-4)
1804309	Family Health	3 (3-0-6)
1804310	Environmental Health	3 (3-0-6)
1804312	Public Health Nutrition	3 (3-0-6)
1804401	Community Health	3 (3-0-6)
1804402	Principles of Epidemiology	3 (3-0-6)
1804403	Public Health Law and Forensic Medicine	3 (3-0-6)
1804404	Field Training	6 (0-40-12)

2.3 Major Courses

Select from the following		9 Credits Cr(Le-Pr-SS)*
1801313	Thai Folk Medicine	2 (1-3-3)
1804405	Principles of Medical Laboratory Analysis	2 (1-3-3)
1804406	Consumer Protection in Public Health	2 (2-0-4)
1804407	Medical Sociology and Medical Anthropology	2 (2-0-4)
1804408	Health Counseling	2 (2-0-4)
1804409	Field Epidemiology	3 (2-2-5)
1804410	Principles of Physical Examination	2 (1-2-3)
1804411	Principles of Child Health Promotion	3 (2-3-5)
1804412	Principles of Geriatrics Health Promotion	3 (2-3-5)
1804413	Principles of Disable Health Promotion	3 (2-3-5)
1804414	Exercise for Health	3 (2-3-5)

3. Free Elective Courses not less than

		6 Credits Cr(Le-Pr-SS)*
xxxxxxx	Free Elective	3 (3-0-6)
xxxxxxx	Free Elective	3 (3-0-6)

At least six credits of free electives can be chosen from any course offered by Mae Fah Luang University.

* Cr : Credit
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Descriptions::

School of Health Science

1801101 Principle of Holistic Care 3 (3-0-6)

Prerequisite: None

An approach to health care that takes into consideration the patient's physical, mental, spiritual and social needs.

1801102 Service Mindness 3 (3-0-6)

Prerequisite: None

Basic general psychology ; social and family factors that influence a person's lifestyle and behaviour; the duty and ethics of a care professional.

1801201 Human Function System 1 3 (3-0-6)

Prerequisite: None

Structures and functions of the human cells, tissues and organs; the organization of the body into musculoskeletal, circulatory, skin, special senses, and nervous systems.

1801202 Human Function System 2 3 (3-0-6)

Prerequisite: 1801201

More structures and functions of the organs of equilibrium; respiratory, digestive, endocrine, reproductive, urinary, and immune systems; basic in mental health.

1801203 Health Promotion 3 (3-0-6)

Prerequisite: None

Principles of health promotion; how to promote a healthy lifestyle for children, the elderly and the disabled.

1801204 Accident Prevention and First Aids 3 (2-2-5)

Prerequisite: None

Principles and practice of accident prevention, risk factors, risk assessment, and first aid. Action to be taken for domestic accidents, injuries and acute illnesses.

1801205 Health Care Delivery System 3 (3-0-6)

Prerequisite: None

The structure and policy framework of health care delivery system in Thailand; the main health care services and organizations in the government and private sectors.

1801206 Caring Principles in Activities of Daily Living 3 (3-0-6)

Prerequisite: None

A study of the principles of care in daily living, applying a holistic approach with consideration for the client's physical, mental and spiritual well being.

1801207 Child Growth and Development 3 (3-0-6)

Prerequisite: None

A study of normal growth and development; the interaction of the state of health in early life with physical, mental and intellectual development. Warning signs of abnormality; advice to parents.

1801208 Child Care 3 (3-0-6)

Prerequisite: None

Principles of day to day child care to achieve a healthy development in all areas of a child's life: physical, mental, intellectual, social and spiritual.

1801209 Child Care Practice 3 (0-12-3)

Prerequisite: None

The practice of child care at home and in nursery; responding appropriately to the basic needs of the child to promote its physical, intellectual, spiritual and social development.

1801210 Geriatrics Care 3 (3-0-6)

Prerequisite: None

A study of the principles of care for the normal elderly people in their own home or in a care institution; assisting in daily living activities concerning their health; responding to their physical, spiritual, psychological and social needs.

1801211 Geriatrics Care Practice 3 (0-12-3)

Prerequisite: None

A practical care for the elderly in their home or an institution; assisting with daily living activities concerning their health; responding to their physical, mental, spiritual and social needs.

1801212 Food and Nutrition 2 (2-0-4)

Prerequisite: None

Principles of nutrition and diets; the composition of food; the energy derived from food substance; food and nutrients; special dietary needs; malnutrition; the effects on the quality of food from food processing; food labelling.

1801301 Human Dysfunction 3 (3-0-6)

Prerequisite: None

A study of the causes and effects of abnormal structures and functions in the cells, tissues or organs. The etiology of diseases, in particular infections, and environmental contamination by harmful substances; their effects on human health.

1801302 Research in Health Science 3 (2-2-5)

Prerequisite: None

A study of the principles of research in health science; the methodology, sources of information and databases; how to analyse, interpret, and apply to real life the results of health researches; taking part in a research group to develop your experience.

1801303 Health Assessment 3 (2-2-5)

Prerequisite: None

A study of principles and practice of taking medical history, recording vital signs; normal health in children; the elderly and the disabled; recognising common health problems and knowing when to refer a case to other health professionals.

1801304 Body Devices Utilization 2 (2-0-4)

Prerequisite: None

A study of different types and use of physical aids for the disabled and the elderly; including their maintenance.

1801305 Professional Ethics and Law 3 (3-0-6)

Prerequisite: None

A study of public health law and regulations; health professionals ethics which governs their behaviour and relationship toward their patients and family.

1801307 Management for Health Care Service 3 (3-0-6)

Prerequisite: None

A study of the principles and practical issues in management applicable to a health care service setting for children, the elderly, the disabled, whether in the client's own home, or in a care institution in the community.

1801308 Care of the Disabled 3 (3-0-6)

Prerequisite: None

A practice of care delivery to people with disabilities living at home or in an institution. Methods of care in daily living, responding to the client's physical, mental, social and spiritual needs.

1801309 Care Practice of the Disabled 3 (0-12-3)

Prerequisite: None

A practical study in care of the disabled in a private home or in a care institution; the daily care and assistance for people with disabilities, responding to their physical, mental, social and spiritual needs.

1801310 Use of Home Drugs 2 (2-0-4)*Prerequisite: None*

A study of useful household remedies and "over-the-counter" medication for common ailments; their indications, dosage and cautions; medicinal preparations and measurement system.

1801311 Health Counseling 3 (3-0-6)*Prerequisite: None*

The principles of health counselling: their application in giving advice to the young, the elderly, the disabled, and their families.

1801312 Practice in Health Counseling 3 (0-9-3)*Prerequisite: None*

A practice in health counselling for the young, the elderly and the disabled, and their families.

1801313 Thai Folk Medicine 2 (1-3-3)*Prerequisite: None*

A study of traditional Thai folk methods of treatment; the use of massage, medicinal plants, medicinal hot compress and steaming; observe the variation in techniques of dealing with health problems, according to the local traditions and belief.

1801314 Environmental Sanitation 3 (2-3-5)*Prerequisite: None*

The fundamental of environmental effects on health; how to create and maintain a safe, clean domestic environment to avoid preventable accidents, infections, and illnesses to children, the elderly and disabled; hygiene and waste disposal; practice in the assessment, design and management of the environment.

1801315 Therapeutic Exercise 3 (2-2-5)*Prerequisite: None*

A study of the use of exercise for therapeutic purposes, aiming at non-specialists, patients and their carers. Different techniques of exercise and their individual indications for treatment and health promotion.

1801316 Health Education and Health Behaviour 3 (3-0-6)*Prerequisite: None*

Principles of health education, emphasising theoretical application in real-life practice; how to effectively modify health behaviour of individuals and community; behaviour patterns and influencing factors.

1801403 Tourism Business and Health 3 (3-0-6)*Prerequisite: None*

The organization and managing a programme of health tour, specializing in alternative therapy for symptoms relief and health improvement, without using drugs.

1801404 SPA Business 3 (3-0-6)*Prerequisite: None*

Principles of spa business management; locations and use of spa resources in Thailand.

1801405 Equilibriopathy 3 (2-3-5)*Prerequisite: None*

Principles of equilibriopathy: scientific and holistic approach to the diagnosis, prevention and treatment of diseases ; practice in basic clinical history taking, examination; massage for therapeutic, preventative and rehabilitative purposes.

1801491 Caring Experiences 3 (0-40-6)*Prerequisite: None*

A comprehensive practice in health care for children, the elderly, and/or the disabled in a private home or an institution; covering daily living, promoting health and quality of life for the clients.

1801492 Caring Experience Abroad**3 (0-40-6)***Prerequisite: None*

Overseas educational fieldtrips aiming to exchange and compare experiences of health care services for children, the elderly and the disabled.

1802101 Medical Terminology**2 (2-0-4)***Prerequisite: None*

Medical terminology in two parts: part one being commonly used terminology in modern medicine, and part two Traditional Thai Medicine terminology.

1802110 First Aid**1(1-0-2)***Prerequisite: None*

Principles of first aid, assessment, vital signs, initial emergency care, first aid equipments, safety and prevention of infection.

1802102 Principles of Biochemistry for Health Science**3 (2-3-5)***Prerequisite: 1102100 and 1103100*

The structure, properties, synthesis, and metabolism of carbohydrate, protein, nucleic acid, lipid, enzyme and other important biochemical compounds including an introduction to antioxidants. The relationship between biochemical processes and diseases, blood and urine chemistry and their interpretation.

1802103 Pharmaceutical Botany for Applied Thai Medicine**2 (1-3-3)***Prerequisite: None*

A study of morphology, taxonomy of medicinal plants: description of external features, botanical classification and nomenclature, identification, medicinal properties, including natural food supplement products, identification and toxicology of poisonous plants, genetic conservation of indigenous plants.

1802104 Health Promotion**2 (2-0-4)***prerequisite: None*

Principles and methods of health promotion; lifestyle planning strategy in the community for a healthy population, emphasising the integration of physical, mental, social, and environmental aspects of health.

1802105 Pharmacognosy**2 (1-2-3)***Prerequisite: None*

Pharmacology of major plant extracts, their chemical structures, extraction methods of active substances and chemical identification, pharmacological effects in human, principles of clinical trials, toxicology of poisonous plants and first aid.

1802106 Principles of Organic Chemistry for Health Science**3 (2-3-5)***Prerequisite: 1102100*

Molecular structures, chemical bond formation, isometric structures, nomenclature, and reactions of alkenes, alkynes and aromatic hydrocarbons, alkyl and alkyl hydrides, alcohols, ether, epoxides, phenols, thiols, and sulfides. Application of organic chemistry techniques in research and medicine.

1802107 Thai Herbs**3 (3-0-6)***Prerequisite: None*

Roles and significance of medicinal plants in human society. Taxonomy and nomenclature. Edible and toxic plants commonly found in Thai households. Plants used in folk medicine, culinary art and rites. Medicinal plants and recipes used as elixir of life. Thai herbs used as dye, fabric, packaging and thatching materials. Edible and toxic plants in Thai forests. Reliable plants in Jungle lost. Trekking trail design. Plant narration for education and eco-tourism. Rare medicinal plants.

1802203 Pathophysiology**3 (2-2-5)***Prerequisite: None*

The mechanism and processes of changes in cells, tissues and organs caused by diseases.

1802206 Principles of Nursing Care**2 (1-2-3)***Prerequisite: None*

Principles of nursing: infection control and hygiene; feeding and nutrition; medicinal delivery; safe moving and handling of patients; postures and exercise; prevention of pressure sores; bed bathing; enema; first aid; naturopathy. Nursing care for children and the elderly.

1802207 Radiology for Applied Thai Medicine**1 (1-0-2)***Prerequisite: None*

Principles of imaging investigation and diagnosis, with application to the practice of Applied Thai Traditional Medicine.

1802209 Anatomy and Physiology 1**3 (2-2-5)***Prerequisite: None*

Normal structures and functions of the human cells, tissues, and organs, covering the musculoskeletal, nervous, circulatory systems, and the relationship between different systems.

1802210 Anatomy and Physiology 2**3 (2-2-5)***Prerequisite: 1802209*

Further study of normal structures and functions of the human cells, tissues, and organs, covering the respiratory, digestive, and genitourinary systems.

1802212 Basic Microbiology, Parasitology and Immunology**3 (2-2-5)***Prerequisite: None*

Basic medical microbiology and parasitology: human pathogenic bacteria, virus, rickettsia, chlamydia and fungi; harmful, parasites, and/or poisonous protozoa, worms, insects, other arthropods, and biting animals common in Thailand; their morphology, pathogenesis, epidemiology, immunology, clinical and laboratory diagnosis, prevention and treatment.

1802213 Laws and Ethics in Health Care System**2 (1-2-3)***Prerequisite: None*

Background of general legal systems and public health laws; law and regulations governing medical practice, nursing homes and clinics, types of medical registration; licenses and how to apply for them; professional conduct and ethics; malpractice offences.

1802214 Applied Thai Traditional for Sport Injury**3 (2-2-5)***Prerequisite: None*

Study of sports injury and role of Applied Thai traditional Medicine: causes, mechanism, types, symptoms and signs, complications, of sports injury; first aid, treatment and prevention using the principles of applied Thai traditional medicine.

1802220 Midwifery**2 (1-2-3)***Prerequisite: None*

Anatomy and physiology of pregnancy; diagnosis of pregnancy; antenatal care; complications of pregnancy; labour; normal delivery; post natal care; integration of Thai Traditional medicine to antenatal, delivery and postnatal care; care of the newborn; family planning.

1802221 Practice in Midwifery**3 (0-12-3)***Prerequisite: None*

Practice in the diagnosis and examination of pregnancy; ante and post natal care; assisting normal delivery; care of the newborn and family planning.

1802230 Thai Traditional Medicine 1**3 (2-2-5)***Prerequisite: None*

History and ethics; Veshsueksa: the study of basic principles of Thai medicine according to sacred texts (or Pra Kumperas) of: Pathomajinda, Mahachotaratana, Vorayokasara, Samuttanavinijchai, Takkasila, Rokanittarn; Dhatuvipunka, Dhatuvivarana; inclusive of health advice to the community.

1802240 Thai Traditional Pharmacy 1**3 (2-2-5)***Prerequisite: None*

A historical perspective of the use of medicinal plants; ethics in pharmacology; the four principles of Thai Materia medica: the therapeutic properties of medicines according to their tastes; the principles of selecting medicinal ingredients; classification, dosage, and system of measurement in Thai Pharmacy; theory and practice of Thai dispensary.

- 1802250 Thai Traditional Therapeutic Massage and Manipulation 1** **2 (1-2-3)**
Prerequisite: None
 History of Thai massage; ethics; principles and methods; indications and cautions; finger strengthening exercises; techniques and practice.
- 1802331 Thai Traditional Medicine 2** **3 (2-2-5)**
Prerequisite: 1802230
 The principles, concepts and essence of the sacred texts (Pra Kumperas) of Chanta-saritra, Dhatu-banjob, Mujcha-pakkanta, Kasaiya, Chavadara, Utorn-roka, Munchusara-vichiara, Vithi-guttharoka, Mukka-roka, Adi-sara, Tippa-mala; and health advice to the community.
- 1802332 Thai Traditional Medicine 3** **3 (2-2-5)**
Prerequisite: 1802331
 A review of the principles, concepts and essence of Thai traditional medicine; their application in clinical history, examination, diagnosis, treatment and health advice; comparison between traditional and modern medicine principles; referral to other specialists.
- 1802335 Practice in Thai Traditional Medicine 1** **3 (0-6-3)**
Prerequisite: 1802332
 Practice in Thai traditional medicine under supervision of Applied Thai Traditional Medicine teachers: medical history, physical examination, diagnosis of common diseases such as common cold, fever, cough, sore throat, headache, flatulence, diarrhea etc., medical record keeping, advice, counseling, and referral to other specialists, with comparison of clinical problems, symptomatology, diagnosis, between Thai traditional and modern medicine.
- 1802336 Practice in Thai Traditional Medicine 2** **3(0-6-3)**
Prerequisite: 1802335
 Further practice in Thai Traditional Medicine under supervision of both Applied Thai Traditional Medicine teacher and modern clinician: medical history, diagnosis, treatment plan, health advice, referral to other specialists, with an emphasis on complex medical history or complications of underlying chronic conditions, for examples hypertension, diabetes mellitus, cardiovascular diseases, with comparison of clinical problems, symptomatology, diagnosis, between Thai traditional medicine and modern medicine.
- 1802341 Thai Traditional Pharmacy 2** **3 (2-2-5)**
Prerequisite: 1802240
 Well known Thai traditional medicinal formulae; the analysis of their basic ingredients and the method of deriving the formulae; recommended household medicines and remedies; side effects of some ingredients; ingredients with similar properties; the concept and choice of bases in Thai medicines; how to use herbs and plants as medicine.
- 1802342 Thai Traditional Pharmacy 3** **3 (2-2-5)**
Prerequisite: 1802341
 Dispensary methods and instruments in traditional Thai medicinal preparations and production: techniques of herbal and medicinal plants harvesting and preserving, packaging and quality control of the finished products.
- 1802351 Thai Traditional Therapeutic Massage and Manipulation 2** **2 (1-2-3)**
Prerequisite: 1802250
 Terminology, indications and cautions; principles and techniques of massage for inner and outer aspects of the arm and leg, the shoulder, knee, back, frontal and occipital aspects of the head, and the abdomen.
- 1802353 Thai Traditional Therapeutic Massage and Manipulation 2** **3 (2-3-5)**
Prerequisite: 1802250
 Mechanism of disease processes, symptoms and signs, physical examination, diagnosis and treatment according to the principles of Hattavecha or Thai Massage theories; therapeutic use of medicinal plants; practice in hot compress and fomentation; postural support of patients; practice of Thai traditional therapeutic massage; advice on exercise, types of food to be avoided in specific conditions according to Thai traditional medicine theory.

1802354 Thai Traditional Therapeutic Massage and Manipulation 3 3 (2-3-5)**Prerequisite:** 1802353

Mechanism of disease processes; symptoms, examination, diagnostic methods and treatment of complex or complicated conditions according to the theories of Hattvecha (Thai therapeutic massage and manipulation) combined with herbal remedy; advanced therapeutic massage; health advice; comparative diagnosis with modern medicine; and when to refer patients to other specialists.

1802403 Integrated Experiences in Applied Thai Medicine 3 (0-12-3)**Prerequisite:** None

Work placement (or internship) in one of the institutions or clinics approved by the School for training in Applied Thai Traditional Medicine.

1802411 Selected Topics in Applied Thai Traditional Medicine 2 (0-6-3)**Prerequisite:** None

An elective study in Applied Thai Traditional medicine of a topic chosen by the student with the advisor's approval, aiming to enhance an enquiring mind, development of research ideas, an ability to assess and interpret information, drawing conclusions and presentation.

1802412 Naturopathy 3 (3-0-6)**Prerequisite:** None

Definition and history of naturopathy; naturopathy for health and treatment; thermo and cryotherapy, phototherapy, herbal health food and beverage, steam and hot compress, exercise, mental health promotion, life force, healthy environment, and spiritual support in daily life.

1802413 Complementary and Alternative Medicine 3 (2-2-5)**Prerequisite:** None

A study of theories and ideas of treatment methods and healthcare systems from several countries which are outside mainstream modern medicine but accepted for practice worldwide, the emphasis is given to Chinese traditional medicine, acupuncture, Chinese herbal medicine, Tuina massage, Indian Ayurvedic, equibropathy, manipulation techniques, application of Buddhism principles to health care.

1802414 General surgery for Applied Thai Medicine 4 (3-3-7)**Prerequisite:** None

Etiology, pathology, symptoms, signs, diagnosis, differential diagnosis, of common surgical, orthopaedic, gynaecological, eye, and ENT conditions, emphasizing clinical situations when a surgical referral must be made.

1802415 General Medicine for Applied Thai Medicine 4 (3-3-7)**Prerequisite:** None

Basic principles of medicine: etiology, symptoms and signs, diagnosis, differential diagnosis, investigation, treatment and prognosis of common diseases in adults and children, to include dermatology, psychiatry, emergency and preventive medicine, rehabilitation and terminal care, with an emphasis on clinical situations when a medical referral must be made. Students are expected to spend specified hours to practice history taking, physical examination, case presentation, and follow-up of patient's progress.

1802416 Clinical practice for Applied Thai Traditional Medicine 1 3 (0-6-3)**Prerequisite:** None

Clinical practice for Applied Thai Traditional Medicine: medical history taking, physical examination, diagnosis, treatment plan, medical report writing.

1802417 Clinical practice for Applied Thai Traditional Medicine 2 3 (0-6-3)**Prerequisite:** None

Clinical practice for Applied Thai Traditional Medicine in physical examination, interpretation of routine laboratory results e.g. blood test, urine test, x-ray, diagnosis, holistic care planning, surgical procedures that ATM can perform, and case presentation.

1802446 Practice in Thai Traditional Pharmacy 1 3 (0-6-3)**Prerequisite:** 1802342

Practice in Thai traditional pharmacy under supervision of Applied Thai Traditional Medicine teacher: preparation, concoction, and dispensing of herbal medicine from prescriptions, advice and counseling on the use and side effects of herbal medicine.

1802447 Practice in Thai Traditional Pharmacy 2**3 (0-6-3)***Prerequisite : 1802445*

Practice in Thai traditional pharmacy under supervision of Applied Thai Traditional Medicine teacher to develop skills in the preparation, production, packaging of various dosage forms of herbal medicine, including equipment, sterile techniques, authentication, standardization and quality control of herbal medicine.

1802456 Practice in Thai Traditional Therapeutic Massage and Manipulation 1 3 (0-6-3)*Prerequisite: 1802354*

Practice in Thai Traditional Therapeutic Massage and Manipulation under supervision of Applied Thai Traditional Medicine teacher: medical history, physical examination, diagnosis, medical record keeping, treatment by Thai traditional therapeutic massage for common conditions such as headache, migraine, shoulder pain, back pain, advice and counseling, referral to other specialists, comparison of diagnosis and treatment with those of modern medicine.

1802457 Practice in Thai Traditional Therapeutic Massage and Manipulation 2 3 (0-6-3)*Prerequisite: 1802456*

Further practice in Thai traditional therapeutic massage and manipulation under supervision of Applied Thai Traditional Medicine teacher: medical history, diagnosis and treatment of more complex or complicated conditions than in the previous course, for examples frozen shoulder, ankle sprain, paralysis, etc., comparison between the diagnosis and treatment according to Hathavada Manual of Thai Massage and Manipulation with those of modern medicine.

1803101 Basic Principles of Nursing for Health Science**1 (1-0-2)***Prerequisite: None*

Basic principles of nursing, infection prevention and control, vital signs and their assessment, nursing principles in emergencies, clinical instruments, their use and maintenance.

1803102 Health Economics**3 (3-0-6)***Prerequisite: None*

A meaning and using the application of various concepts and techniques of health economic to determine and allocate health care resources. Use the limitable resource for health care activities such as disease prevention, health promotion, and rehabilitation. And to understand the sources of health resource and national health institute.

1803201 Biomechanics 1**2 (1-2-3)***Prerequisite: None*

Definition of biomechanics; principles and application of mechanics and kinetics in the movements of the body: the working of muscles, soft tissues, joints, axial and appendicular skeleton. Analysis and assessment of movements; basic principles of ergonomics.

1803202 Biomechanics 2**2 (1-2-3)***Prerequisite: 1803201*

Mechanics of motion generated from the working of musculoskeletal and nervous systems; analysis of postures, movements and gaits, both normal and abnormal.

1803203 Thermotherapy**3 (2-3-5)***Prerequisite: 1104100*

Physiological effects of heat and cold; thermal therapy: indications, precautions, contraindications; introduction to equipment, their use and maintenance.

1803204 Manipulation Therapy**3 (2-2-5)***Prerequisite: None*

Theory and practice of assessment and treatment using manipulation techniques in musculoskeletal and joint problems.

1803205 Massage Therapy**1 (0-2-1)***Prerequisite: None*

Principles and practice of therapeutic massage, techniques, indications, cautions and contraindications.

1803206 Electrotherapy 3 (2-2-5)*Prerequisite: 1104100*

The characteristics of electrical current and stimulator used in physiotherapy. Principles and techniques of electrical stimulation of muscles for diagnostic and therapeutic purposes; indications, precautions and contraindications for electrical stimulation, and the maintenance of equipment.

1803207 Physical Examination in Physical Therapy 2 (1-2-3)*Prerequisite: None*

Principles and practice of physical examination in physical therapy, assessment of sensory perception, muscle tone and power, measurement of appendages, angles of joint movements, physiological responses of muscles and nerves.

1803208 Transfer and Ambulation Aids 1 (0-2-1)*Prerequisite: None*

Principles and practice of moving and handling patients; walking aids and wheelchairs; supportive splinting and elastic bandaging.

1803209 Clinical Practicum in Physical Therapy 1 1 (0-6-1)*Prerequisite: None*

Clinical attachment to observe and practice the basics of physical therapy under supervision; how to approach, interview, and find out relevant medical information of a patient.

1803210, 211 1803210, 1803211

1803301 Anatomy and Physiology 3 3 (2-2-5)*Prerequisite: 1802210*

Anatomy and physiology of musculoskeletal and nervous systems, gross dissection, origins and insertions of muscles, cellular events of muscle contraction, control mechanism of movements, the brain and spinal cord, classification of nervous system according to functions, the peripheral nervous systems and dermatomes, autonomic nervous system.

1803302 Physical Therapy in Musculoskeletal 1 3 (2-2-5)*Prerequisite: None*

Basics in the assessment, diagnosis, and physical therapy of musculoskeletal dysfunctions, metabolic, immune and infectious diseases of muscles, tendons, connective tissues, bones and joints.

1803303 Physical Therapy in Musculoskeletal 2 3 (2-2-5)*Prerequisite: 1803302*

Basic knowledge of the principles of surgical treatment, splinting, mobility aids and artificial limbs, their use, cautions and contraindications.

1803304 Physical Therapy in Neurology 1 3 (2-2-5)*Prerequisite: 1802210*

Pathology of diseases of the central and peripheral nervous systems; assessment, diagnosis and plan of management of neurological conditions, including their prevention, treatment, rehabilitation, and health promotion.

1803305 Physical Therapy in Neurology 2 3 (2-2-5)*Prerequisite: 1803304*

Physical therapy for neurological dysfunctions; specific neurological treatment; neurological theories of cognitive and motor functions; recovery of the nervous tissues and conditions.

1803306 Physical Therapy in Cardiopulmonary 1 3 (2-2-5)*Prerequisite: None*

Diseases of the cardiopulmonary system, pathology, assessment, diagnosis, radiology, and basic physical therapy, for example postural drainage, percussion and vibration techniques.

1803307 Physical Therapy in Cardiopulmonary 2 2 (1-2-3)*Prerequisite: 1803306*

Monitoring and prevention of complications in cardiopulmonary diseases; cardiopulmonary resuscitation; weaning of a respirator, and terminal care.

1803308 Therapeutic Exercise 1**3 (2-2-5)***Prerequisite: None*

Principles and theories of exercise as treatment; physiological changes during different phases of exercise i.e. resting, during exercise, pre and post exercise stages; tests of physical fitness, flexibility, strength and endurance; body mass index; adverse effects of physical inactivity and immobilization; basic techniques of exercise for health promotion, disease prevention and treatment.

1803309 Therapeutic Exercise 2**3 (2-2-5)***Prerequisite: 1803308*

Analysis and designing exercises for the rehabilitation of both healthy individuals and patients; specialist techniques for mobility dysfunctions such as NDT, PNF, multi-sensory approach, including relaxation and co-ordination improvement techniques.

1803310 Swimming for Physical Therapy**1 (0-2-1)***Prerequisite: None*

Principles of movements in water; techniques and practical study of swimming; first aid and emergencies, cardiopulmonary resuscitation, water rescue and lifesaving.

1803311 Hydrotherapy**1 (0-2-1)***Prerequisite: 1803310*

The qualities of water in hydrotherapy, principles and practice, aquatic exercise physiology, techniques and equipment, indications and contraindications.

1803312 Medical Technology**1 (1-0-2)***Prerequisite: None*

Basic medical investigations: radiological imaging, biochemistry, microbiology and haematology laboratory investigations and the clinical significance of their results.

1803313 Administration, Law and Ethics in Physical Therapy**2 (2-0-4)***Prerequisite: None*

Thai public health system, public health law and regulations, professional conduct and ethics in physical therapy; leadership and teamwork.

1803314 Clinical Practicum in Physical Therapy 2**2 (0-10-2)***Prerequisite: 1803209*

Clinical practicum in physical therapy clinic: participation in clinical approach, history taking and interviewing clients under supervision, identifying clients' problems relevant to physical therapy.

1803315 Clinical Practicum in Physical Therapy 3**2 (0-10-2)***Prerequisite: 1803314*

Further practicum in physical therapy clinic with an emphasis on examination, assessment, diagnosis, plan of management including basic physical therapeutic techniques, health promotion, rehabilitation, and systematic clinical recording, under the supervision of a chartered physiotherapist.

1803316 Clinical Practicum in Physical Therapy 4**4 (0-16-4)***Prerequisite: 1803315*

Further practicum in physical therapeutic assessment, diagnosis, prevention, health promotion, rehabilitation and treatment of different body systems; additional clinical experience in a variety of healthcare premises, under the supervision of a chartered physical therapist.

1803401 Physical Therapy in Children**3 (2-2-5)***Prerequisite: None*

Basics of child growth and development; child handling skill; examination, diagnosis, treatment and prevention of mobility problems, health promotion, and rehabilitation in children.

1803402 Physical Therapy in Woman and the Elderly 2 (1-2-3)*Prerequisite: None*

Population, society and medical aspects of women and the elderly, access and communication aspects of these groups; the examination and assessment of their physical, mental, and social health; prevention, treatment and rehabilitation for them which may need specific approach such as exercise techniques for women and the elderly, pre and post-natal care, pelvic and pelvic floor problems, and stress management.

1803403 Physical Therapy in Sports 3 (1-6-3)*Prerequisite: None*

The assessment, analysis, and prevention of different types of sport injuries; the application of exercise principles to athlete training; basic nutrition principles for sport; awareness of the danger of banned drugs and stimulants use in athletes; the management of sport injuries including transfer of injured athletes; sports for the disabled.

1803404 Physical Therapy in the Community 3 (1-6-3)*Prerequisite: None*

A study of health problems and health behavior in the community; health risk factors; an integrated approach to problem solving to health promotion, prevention of illness, treatment and rehabilitation in different communities.

1803405 Seminar in Current Topics 1 (0-3-1)*Prerequisite: None*

An exercise in research, review of papers, problem-based learning, analysis and group work presentation, as assigned by the supervisor.

1803406 Clinical Practicum in Physical Therapy 5 3 (0-12-3)*Prerequisite: 1803316*

More experience in the clinical practice of assessment, diagnosis, and treatment in physical therapy for health promotion, prevention of ill health, and treatment of different systems, with an emphasis on clinical reasoning, and patients discharge, under the supervision of a chartered physiotherapist.

1803407 Clinical Practicum in Physical Therapy 6 6 (0-24-6)*Prerequisite: 1803406*

An application of acquired knowledge in physical therapeutic assessment, diagnosis, treatment, health promotion, disease prevention, and rehabilitation to all types of clinical problems that patients may present, under the supervision of a chartered physiotherapist.

1804101 Mental Health 3 (3-0-6)*Prerequisite: None*

Principles, theories, and the assessment of mental health. Factors associated with mental health and narcotic drugs. Principles of caring for drug abusers and mental health disorders at the individual, family, and community levels.

1804102 Introduction to Public Health 2 (2-0-4)*Prerequisite: None*

Definition, historical background and development of public health system, characteristic models and framework of public health duties, factors affecting public health, national and international public health bodies, main national public health projects in Thailand.

1804103 Public Health Microbiology 3 (2-2-5)*Prerequisite: None*

The characteristics of bacteria and other microorganisms of importance in public health. Growth, metabolism, classification, detection and identification of microorganisms, and their impact on host cell.

1804201 Public Health Parasitology 3 (2-2-5)*Prerequisite: None*

The study of the life cycles and health effects of human parasites which have significant public health implication, their prevention and control.

1804202	Public Health Administration	3 (3-0-6)
<i>Prerequisite: None</i>		
Principles of general administration and public health administration, factors affecting organization and success, leadership, team working, public health structure of Thailand, public health planning theories and methods for short, medium and long terms, planning and organization of public health field work.		
1804204	Oral Health	2 (2-0-4)
<i>Prerequisite: None</i>		
Study of human dental structures and development, basic oral and dental health assessment, primary care and promotion of oral hygiene in children, the elderly and disabled.		
1804205	Principles of Health Promotion	3 (3-0-6)
<i>Prerequisite: None</i>		
Theories, principles, and methods of health promotion. Theories, methods, communication, education materials, assessment of outcome for the community in general and the at risk groups.		
1804206	Public Health Virology and Immunology	3 (2-2-5)
<i>Prerequisite: None</i>		
Morphology, multiplication, transmission, classification of pathogenic viruses in human, effects of viral infection on the immune system, public health implication, principles of prevention, control, and immunization.		
1804207	Occupational Health and Safety	3 (3-0-6)
<i>Prerequisite: None</i>		
Principles and theories of workplace safety, environmental management, types of occupational hazards and risk management for healthy workplace.		
1804301	Infectious Disease and Control	3 (3-0-6)
<i>Prerequisite: None</i>		
Principles of diagnosis, treatment, control, and prevention of common infectious diseases of the skin, gastrointestinal, respiratory, cardiovascular, brain and nervous systems, sexually transmitted infections, infectious diseases of public health importance such as influenza, measles, mumps, diphtheria, tetanus, pertussis, food poisoning, cholera, poliomyelitis, rabies, meningitis, pneumonia, tuberculosis, leprosy.		
1804302	Non-Infectious Disease and Prevention	3 (3-0-6)
<i>Prerequisite: None</i>		
Principles of diagnosis, treatment, referral, prevention and control of non-infectious diseases according to the body systems, including notational and pregnancy related diseases.		
1804303	Public Health Behavioral Science	3 (3-0-6)
<i>Prerequisite: None</i>		
Principles and theories of human behavior. Factors influencing human behavior. Methods in the study of human behavior with health and public health implication.		
1804304	First Aid	3 (2-2-5)
<i>Prerequisite: None</i>		
Principles of first aid, emergency care, concept of Cardio-pulmonary resuscitation (CPR), first aid equipments, assessment of vital signs, symptoms assessment in an acute illness, basic first aid procedure.		
1804305	Principles of Illness Prevention	2 (1-3-3)
<i>Prerequisite: None</i>		
Methods and principles of illness prevention in children, the elderly and disabled. Health promotion and health assessment for physical, mental and social needs.		
1804306	Public Health Pharmacy	3 (3-0-6)
<i>Prerequisite: None</i>		
Types of basic drugs in public health practice, drug absorption, metabolism, side effect, and interaction, routes of drug delivery, indications and contraindications of main drug groups.		

1804307 Emerging Disease and Control**3 (3-0-6)***Prerequisite: None*

Principles of diagnosis, treatment, referral, prevention and control of emerging diseases in public health such as avian influenza, SARS, AIDS.

1804308 Professional Ethics in Public Health**2 (2-0-4)***Prerequisite: None*

The principles of professional ethics, moral, and good practices of a public health officer.

1804309 Family Health**3 (3-0-6)***Prerequisite: None*

Theories, principles and practice of maternal and child health, stages of pregnancy, complication of pregnancy, risk factors, care and health promotion for pregnant women, child growth and development, family planning, men's health, care of the elderly in the family setting.

1804310 Environmental Health**3 (3-0-6)***Prerequisite: None*

Principles and methods of public sanitation, control and prevention of disease caused by toxic and infectious waste, principles of safe drinking water provision, sewage, and waste management, the principles of environmental management conducive to health.

1804311 Biostatistics**3 (3-0-6)***Prerequisite: None*

The characteristics of data, and biostatistics in biomedical and public health. The measurement, distribution, interpretation of health data, use of appropriate biostatistics methods in health science research.

1804312 Public Health Nutrition**3 (3-0-6)***Prerequisite: None*

The composition of food, nutrients requirement and human energy consumption. Dietary requirements at different stages of human life cycle. The anthropometry, nutritional status evaluation, nutritional problems and diseases caused by malnutrition. Public health planning in community nutrition, influencing factors and dietary cautions.

1804401 Community Health**3 (3-0-6)***Prerequisite: None*

Study of community structures, characteristics, organizations and life style. Factors associated with health in the community. The community diagnosis to investigate risk factors. The interpretation process of public health problem in the community. The principles of problem priority and problem solution. The process of health planning and health project assessment.

1804402 Principles of Epidemiology**3 (3-0-6)***Prerequisite: None*

The methodology of the study of etiology, risk factors, distribution, public health problems and epidemiology of diseases, the use of biostatistics to identify the disease surveillance and control.

1804403 Public Health Law and Forensic Medicine**3 (3-0-6)***Prerequisite: None*

Public health law, acts and regulations, legal officers and authorities, forensic medicine, its relationship with public health duties and legal enquiry.

1804404 Field Training**6 (0-40-12)***Prerequisite: None*

Field training of basic medical assessment, treatment and first aid in the hospital for two months periods and two months of training in public health skills in a public health centre or local government office.

1804405 Principles of Medical Laboratory Analysis**2 (1-3-3)***Prerequisite: None*

Principles of medical biochemistry laboratory analysis of blood and secretions, interpretation of result for public health purposes, preparation, presentation and dispatch of specimens in the lab.

1804406 Consumer Protection in Public Health**2 (2-0-4)***Prerequisite: None*

The organizations concerned with consumer protection. The procedures and methods of consumer protection in public health. The investigation and surveillance of products related to health, consumer rights.

1804407 Medical Sociology and Medical Anthropology**2 (2-0-4)***Prerequisite: None*

Principles and theories in medical sociology and medical anthropology. Factors affecting public health activities. The social dimensions in community health.

1804408 Health Counseling**2 (2-0-4)***Prerequisite: None*

The significance, meaning, principles and process in health counselling techniques. The process of health counseling in youth, drug abuser, and people with mental health problems.

1804409 Field Epidemiology**3 (2-2-5)***Prerequisite: 1804402*

Principles of surveillance. Practice for screening tools and instruments of community health diagnosis. Establishment of the surveillance system network. Field practice in diseases investigation, control, and reporting process.

1804410 Principles of Physical Examination**2 (1-2-3)***Prerequisite: None*

Principles of systematic physical examination for the purpose of public health detection of diseases and disorders, symptoms, principles of medical treatment in general and emergencies.

1804411 Principles of Child Health Promotion**3 (2-3-5)***Prerequisite: None*

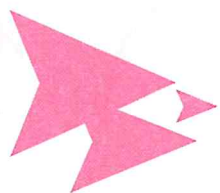
Concept, theories, and principles of child health promotion in daily living: eating, sleeping, exercise and recreation. emphasizing the basic need of a child's physical, mental, social development.

1804412 Principles of Geriatric Health Promotion**3 (2-3-5)***Prerequisite: None*

Concepts, theories and principles of health promotion and care for elderly people, and healthy environmental management with appropriate diet and exercise, to meet the basic physical, mental and social need of elderly people.

1804413 Principles of Disable Health Promotion**3 (2-3-5)***Prerequisite: None*

Concepts, theories and principles of health promotion and care of people with disability. The appropriate exercise and environment management for disabled people with emphasis on physical, mental, and social welling for disabled people.



School of Nursing



Nursing Science

School of Nursing

Mae Fah Luang University

The School of Nursing was established on 15th December 2006 to commemorate Her Royal Highness the late Princess Mother, "Princess Srinagarindra Mahidol", who was known as "Mae Fah Luang" and in recognition of her exemplary contribution toward progress and advancement in the fields of Nursing / Midwifery and social services. The beloved Princess Mother was graduated from a nursing program and all through her life time had dedicatedly worked very hard to elevate health status and quality of life of the Thai people.

The School of Nursing aims at educating quality nursing personnel to meet health workforce need of the country at both basic and advanced levels and promoting excellence in research to improve nursing services and solving national health problems. The school will be also serving as continuing education center for nurses, midwives, and health personnel of the country as well as neighboring countries. This newly established school makes significant contribution to the expansion of higher educational opportunity for the young people in the North of Thailand and Thailand as a whole.

Current Teaching Programs:

In this beginning phase, the School of Nursing offers one program of the Bachelor of Nursing Science (B.N.S.) and a one-year auxiliary program for Practical Nurse Training.



Bachelor of Nursing Science Program B.N.S.

Total Credit	141 Credits
1. General Education Courses	31 Credits
2. Specific Requirement Courses	104 Credits
2.1 Core Courses (Pre-clinical Courses)	34 Credits
2.2 Major Required Courses (Professional Courses)	70 Credits
2.2.1 Theoretical Courses	40 Credits
2.2.2 Nursing Laboratory Courses	4 Credits
2.2.3 Clinical Practice Courses	26 Credits
3. Free Elective Courses	6 Credits

1. General Education Courses	31 Credits
	Cr(Le-Pr-SS)*
1001103 Thai Language Skills	2 (2-0-4)
1001112 Logical Thinking	2 (1-2-3)
1001141 General Psychology	3 (3-0-6)
1006217 English for Communication	3 (2-2-5)
1006218 Academic Reading nad Writing	3 (2-2-5)
1006301 College Writing	2 (2-0-4)
1006302 Academic Oral Skills	2 (2-0-4)
1006303 English for Professional Purposes	1 (0-2-1)
1006304 English for Professional Success	1 (0-2-1)
1102100 Principles of Chemistry	3 (2-3-5)
1106100 Mathematic for Life	3 (3-0-6)
1301104 Introduction to Information Technology	3 (2-2-5)
1901212 Local Wisdom and Health Care	3 (3-0-6)

2. Specific Required Courses	104 Credits
2.1 Core Courses (Pre-clinical Courses)	34 Credits
	Cr(Le-Pr-SS)*
1103100 Principles of Biology	3 (2-3-5)
1104100 Principles of Physics	3 (2-3-5)
1802102 Principles of Biochemistry for Health Sciene	3 (2-3-5)
1802212 Basic Microbiology Parasitology and Immunology	3 (2-2-5)
1802243 Basic Pharmacology	3 (3-0-6)
1901201 Anatomy and Physiology 1	3 (2-2-5)
1901202 Anatomy and Physiology 2	3 (2-2-5)
1901203 Human Development	2 (2-0-4)
1901204 Epidemiology	2 (2-0-4)
1901205 Health Promotion	2 (2-0-4)
1901206 Nutritional Therapy	2 (2-0-4)
1901207 Clinical Pathophysiology	3 (2-2-5)
1901411 Nursing Research	2 (1-2-3)

2.2 Major Required Courses	70 Credits
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2.2.1 Theoretical Courses	40 Credits
	Cr(Le-Pr-SS)*
1901100 Health System and Nursing Profession	3 (3-0-6)
1901208 Nursing Process	3 (1-6-4)
1901210 Adult Nursing 1	3 (3-0-6)
1901302 Elderly Nursing	2 (2-0-4)
1901304 Adult Nursing 2	3 (3-0-6)
1901306 Professional Law and Ethics in Nursing	2 (2-0-4)
1901307 Maternity Nursing and Midwifery 1	3 (3-0-6)
1901309 Pediatric and Adolescent Nursing	3 (3-0-6)
1901311 Mental Health Promotion and Psychiatric Nursing 1	2 (2-0-4)

1901312	Mental Health Promotion and Psychiatric Nursing 2	2 (2-0-4)
1901314	Community Nursing	3 (3-0-6)
1901315	Trauma and Disaster Nursing	2 (2-0-4)
1901401	Maternity Nursing and Midwifery 2	3 (3-0-6)
1901403	Leadership and Nursing Management	2 (2-0-4)
1901405	Primary Medical Care	2 (2-0-4)
1901407	Issue and Trend in Nursing Profession	2 (2-0-4)

2.2.2 Nursing Laboratory Courses	4 Credits
	Cr(Le-Pr-SS)*
1901209 Basic Nursing Therapeutics	4 (2-6-6)

2.2.3 Clinical Practice Courses	26 Credits
	Cr(Le-Pr-SS)*
1901303 Adult and Elderly Nursing Practicum 1	3 (0-12-3)
1901305 Adult and Elderly Nursing Practicum 2	3 (0-12-3)
1901308 Maternity Nursing and Midwifery Practicum 1	3 (0-12-3)
1901310 Pediatric and Adolescent Nursing Practicum	3 (0-12-3)
1901313 Mental Health Promotion and Psychiatric Nursing Practicum	2 (0-8-2)
1901402 Maternity Nursing and Midwifery Practicum 2	3 (0-12-3)
1901404 Leadership and Nursing Management Practicum	2 (0-8-2)
1901406 Primary Medical Care Practicum	2 (0-8-2)
1901408 Community Medical Practicum	3 (0-12-3)
1901410 Clinical Profession Practicum	2 (0-8-2)

3. Free Elective Courses not less than	6 Credits
	Cr(Le-Pr-SS)*
xxxxxxx Free Elective	3 (3-0-6)
xxxxxxx Free Elective	3 (3-0-6)

At least six credits of free electives can be chosen from any course offered by Mae Fah Luang University.

* Cr : Credit
 Le : Lecture
 Pr : Practice
 SS : Self Study

Descriptions::

School of Nursing

1901100 Health System and Nursing Profession

3 (3-0-6)

Prerequisite: None

National policy and health system. Roles and responsibilities of health care provider emphasize on nurses and midwives at all levels of health care institutions. Nursing philosophy, nursing profession development. Conceptual bases of nursing science for holistic care. Ethical and standard of nursing profession. Career ladder of professional nurses and professional nursing organization.

1901201 Anatomy and Physiology 1

3 (2-2-5)

Prerequisite: None

Normal structures and functions of the human cells, tissues, and organs, covering the musculoskeletal, nervous, circulatory systems, and the relationship between different systems.

1901202 Anatomy and Physiology 2

3 (2-2-5)

Prerequisite: 1901201

Further study of normal structures and functions of the human cells, tissues, and organs, covering the respiratory, digestive, and genitourinary systems.

1901203 Human Development

2 (2-0-4)

Prerequisite: None

Study of concepts and theories of human development during the stage of life cycle from prenatal through old age. Focus will be placed on factors affecting on development, developmental assessment, adaptation, deviated development and prevention including promoting human development at all ages.

1901204 Epidemiology

2 (2-0-4)

Prerequisite: None

Concepts principle and factors related to diseases and illness, distribution of diseases, level and measurement in prevention screening and risks of disease. Determinant factor of community health. Methods of epidemiological surveillance and outbreak investigation.

1901205 Health Promotion

2 (2-0-4)

Prerequisite: None

Concepts in health promotion, public policy, behavioral theory, health promotion. Strategies and health promotion process for individual, family and community. Factors effecting health behavior, community involvement in organizing health promotion activities.

1901206 Nutritional Therapy

2 (2-0-4)

Prerequisite: None

Concepts of nutrition and diet therapy; nutrition problems; nutrition status assessment; promotion for nutritional consumption behaviors appropriate with cultural context, local wisdom as well as family and community resources including nutritional and diet therapy in various diseases.

1901207 Clinical Pathophysiology

3 (2-2-5)

Prerequisite: None

Pathophysiology, symptomatology, factors influencing structural and functional changes of organ systems, pathogenesis, defense mechanisms and system adaptation.

1901208 Nursing Process

3 (1-6-4)

Prerequisite: None

Concept, principles and component of nursing process. Health assessment of individual, family and community. Data analysis and nursing diagnosis. Nursing care planning implementing, evaluating and documenting are included.

1901209 Basic of Nursing Therapeutics**4 (2-6-6)***Prerequisite: None*

Common health problems and needs of individual. Concepts, principles, and skills in nursing practice, interpersonal relationships, health education in response to basic needs including physical, mental psychosocial and spiritual needs of individual and their family in the state of illness, rehabilitation, prevention of diseases and injury, and health promotion. Basic nursing procedures are included.

1901210 Adult Nursing 1**3 (3-0-6)***Prerequisite: None*

Concepts and theories related to nursing care of ill adults: stress and coping with physical illness, chronic illness and rehabilitation, loss, grief and dying. Common problems encountered in care of ill adults: wound and infection, cancer, pain and pain control, sleep disorders, substance abuse, fluid electrolyte and acid-base imbalance, shock, and perioperative care. Pathophysiology, treatment, nursing care, rehabilitation and health promotion in persons with alterations in gas transport and metabolism.

1901212 Local Wisdom and Health Care**3 (3-0-6)***Prerequisite: None*

Study of the concepts of local life styles and wisdom which affect health behavior and health care of the Northern Thais to include local curative measure of illnesses. An analysis of positive and negative effect of local curative measures and the selection of Thai wisdom applicable to holistic health care will be included.

1901302 Elderly Nursing**2 (2-0-4)***Prerequisite: None*

Concept, theories, development of the elderly persons, common health problem, health assessment. Holistic nursing for the elderly persons covers 4 dimensions of care; health promotion, prevention of illness and injuries, cur caring and rehabilitation with respect to dignity, human rights and professional ethics.

1901303 Adult and Elderly Nursing Practicum 1**3 (0-12-3)***Prerequisite: None*

Practice in providing holistic nursing care to ill adults and elderly by integration of knowledge in pathophysiology, medicine, nursing and other related science as well as the best available evidence through nursing process, clinical reasoning and decision making to solve problems and meet patients' needs resulting from alterations in gas transport and metabolism with respect to client right and code of ethics.

1901304 Adult Nursing 2**3 (3-0-6)***Prerequisite: None*

Pathophysiology, treatment, nursing care, rehabilitation and health promotion in persons with alterations in digestion and elimination, reproduction and sexuality, cognition, sensation, motor, body defense and protection. Ethical decision in care of ill adults.

1901305 Adult and Elderly Nursing Practicum 2**3 (0-12-3)***Prerequisite: None*

Practice in providing holistic nursing care to ill adults and elderly by integration of knowledge in pathophysiology, medicine, nursing and other related science as well as the best available evidence through nursing process, clinical reasoning and decision making to solve problems and meet patients' needs resulting from alterations in gas transport, metabolism, digestion and elimination, reproduction and sexuality, cognition, sensation, motor, body defense and protection with respect to client right and code of ethics.

1901306 Professional Laws and Ethics in Nursing**2 (2-0-4)***Prerequisite: None*

Studying the knowledge of general principles of law and ethics, Nursing and Midwifery Act as well as other health related Acts. The course also emphasizes on clinical ethics, code of professional conducts and ethical decision making in nursing and midwifery practices.

1901307 Maternity Nursing and Midwifery 1**3 (3-0-6)***Prerequisite: None*

Concepts and Principles in maternal – newborn nursing and midwifery, health promotion for women preparing to marry and before pregnant , fertilization, fetal growth and development. Physical and psychosocial changes, health assessment of pregnant women and fetus, diagnosis of the health status, health promotion and holistic care of well women during the antepartum, intrapartum and postpartum periods. Conducting normal delivery and nursing care for the newborn are included; with an emphasis on family participation.

1901308 Maternity Nursing and Midwifery Practicum 1**3 (0-12-3)***Prerequisite: None*

Practice by Integration of concepts and principle in maternal - newborn nursing and midwifery, nursing science and other related disciplines; evidence based practice and nursing process in health promotion and holistic care of well woman during the antepartum, intrapartum and postpartum periods including conduction of normal delivery and nursing care for newborn with an emphasis on family participation with respect to client right and code of ethics.

1901309 Pediatric and Adolescent Nursing**3 (3-0-6)***Prerequisite: None*

Concept and Theories related to nursing care of children and adolescents. Child's rights and ethics in caring of children and adolescents. Promotion of health and development of children and adolescents. Nursing care to promote bio-psycho social and spiritual well being of children and adolescents at each stage of health as well as family.

1901310 Pediatric and Adolescent Nursing Practicum**3 (0-12-3)***Prerequisite: None*

Practicum in nursing care of children and adolescents by application of related concept, theories and evidences in order to promote health and development and response to bio-psycho social and spiritual needs of centered care, child's right and ethics in child care.

1901311 Mental Health Promotion and Psychiatric Nursing 1**2 (2-0-4)***Prerequisite: None*

Concepts theories and empirical evidence for mental health and mental illness, factors influence to mental health promotion and mental illness, psychiatric signs and symptoms, classification in common mental disorder, psychiatric nursing for mental health promotion, mental health prevention and psychotherapy in individual group family and community.

1901312 Mental Health Promotion and Psychiatric Nursing 2**2 (2-0-4)***Prerequisite: None*

Concepts and theories for psychiatric nursing, principal processes/techniques and psychiatric nursing tools for psychotherapy in individual group family and community, nursing process for psychiatric nursing in abnormal behaviors, community mental health and community psychiatric nursing.

1901313 Mental Health Promotion and Psychiatric Nursing Practicum**2 (0-8-2)***Prerequisite: None*

Practice skills of comprehensive psychiatric nursing care by using the psychological theories, pharmacological theories, nursing theories, evidence based practice, nursing process, clinical critical thinking according to solve problems or response to the needs in holistic care for patient, practice therapeutic relation, therapeutic communication and self understanding as a therapeutic tools in individual psychotherapy and group psychotherapy, practice in mental health promotion and mental health prevention in primary secondary and tertiary care in hospital/community under professional ethics with respect to client right and code of ethics.

1901314 Community Nursing**3 (3-0-6)***Prerequisite: None*

Concepts and principle of community nursing, role of community health nurse, health care service at primary level, principle of holistic health and alternative care application of epidemiology and relate sciences in community assessment, planning, implementation and evaluation by community involvement, promotion of community health, family health, school health and occupational health nursing.

1901408 Community Medical Practicum**3 (0-12-3)***Prerequisite: None*

Community nursing practice by applying knowledge in epidemiology, health promotion, community nursing process in community assessment, planning, implementation and evaluation through community involvement. Practice of community nurses role in health promotion, disease prevention and control, factors effecting community health, health care service for risk group and chronic diseases, school health and occupational health.

1901410 Clinical Profession Practicum**2 (0-8-2)***Prerequisite: None*

Clinical practice for enhancement of nursing skills in the area of students' interest after completion of required courses. Practicing skills for professional nurses are emphasized as well.

1901411 Nursing Research**2 (1-2-3)***Prerequisite: None*

Conceptualization of research and nursing research, research process, type and characteristics of nursing research, basic statistics for data analysis, evidence based practice and quality of nursing care.

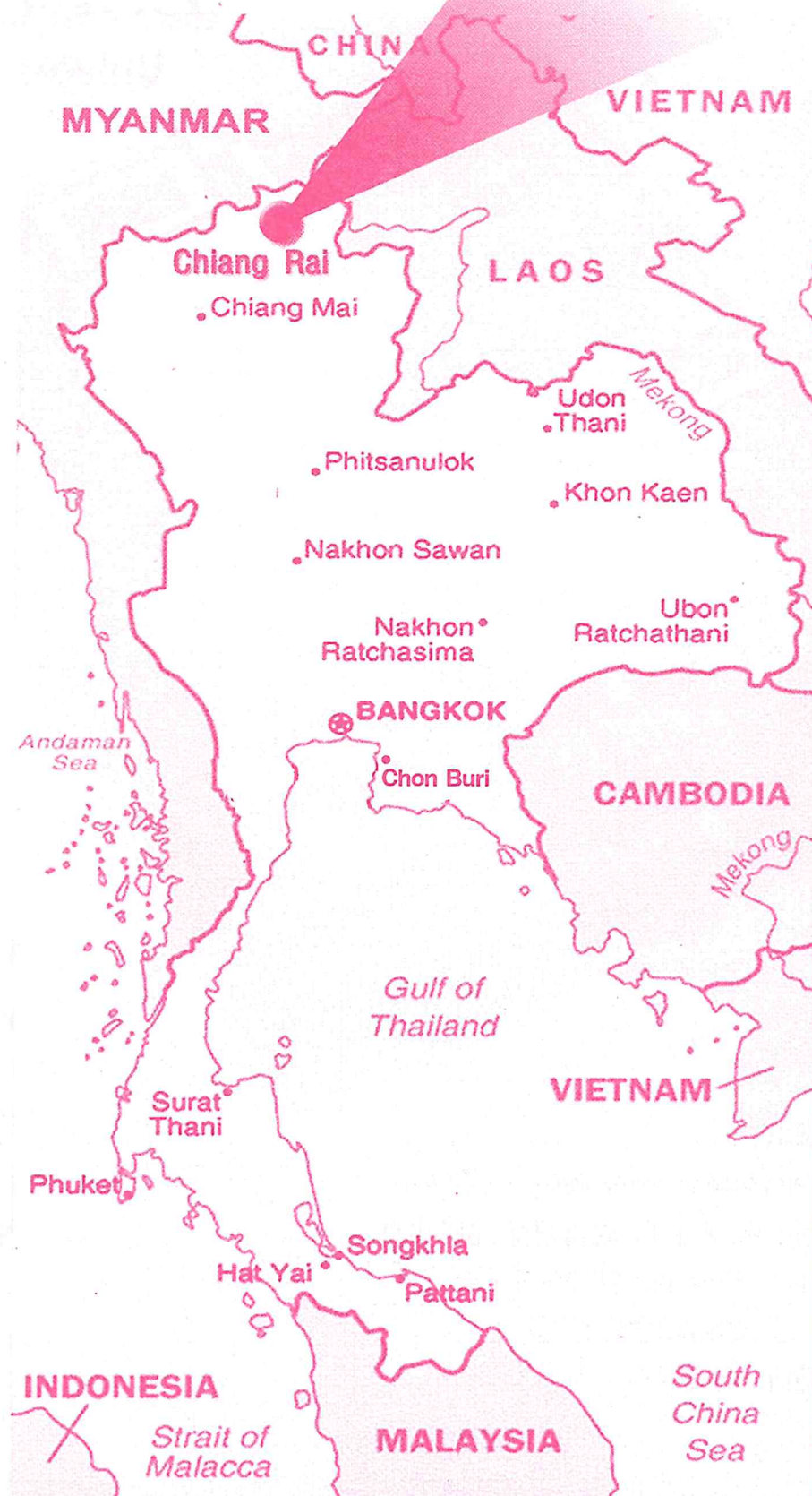
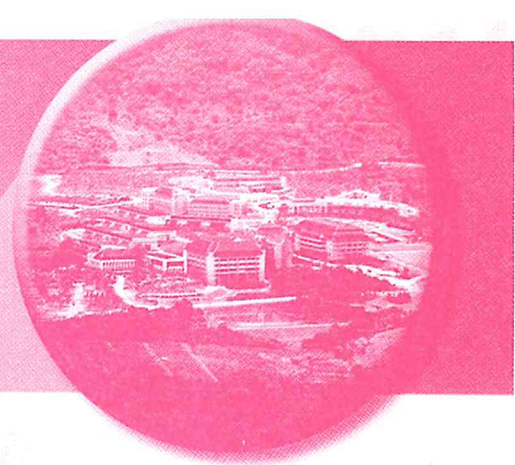
1901412 Tobacco and Health**3 (3-0-6)***Prerequisite: None*

Epideminology of tobacco consumption; strategies of tobacco industry; hazards of tobacco to health and measures of protection; laws on controlling tobacco; role of health care professionals in helping smokers and second smokers; strategies for cooperation for a tobacco free Thai society.

MAE FAH LUANG UNIVERSITY

Chiang Rai, Thailand

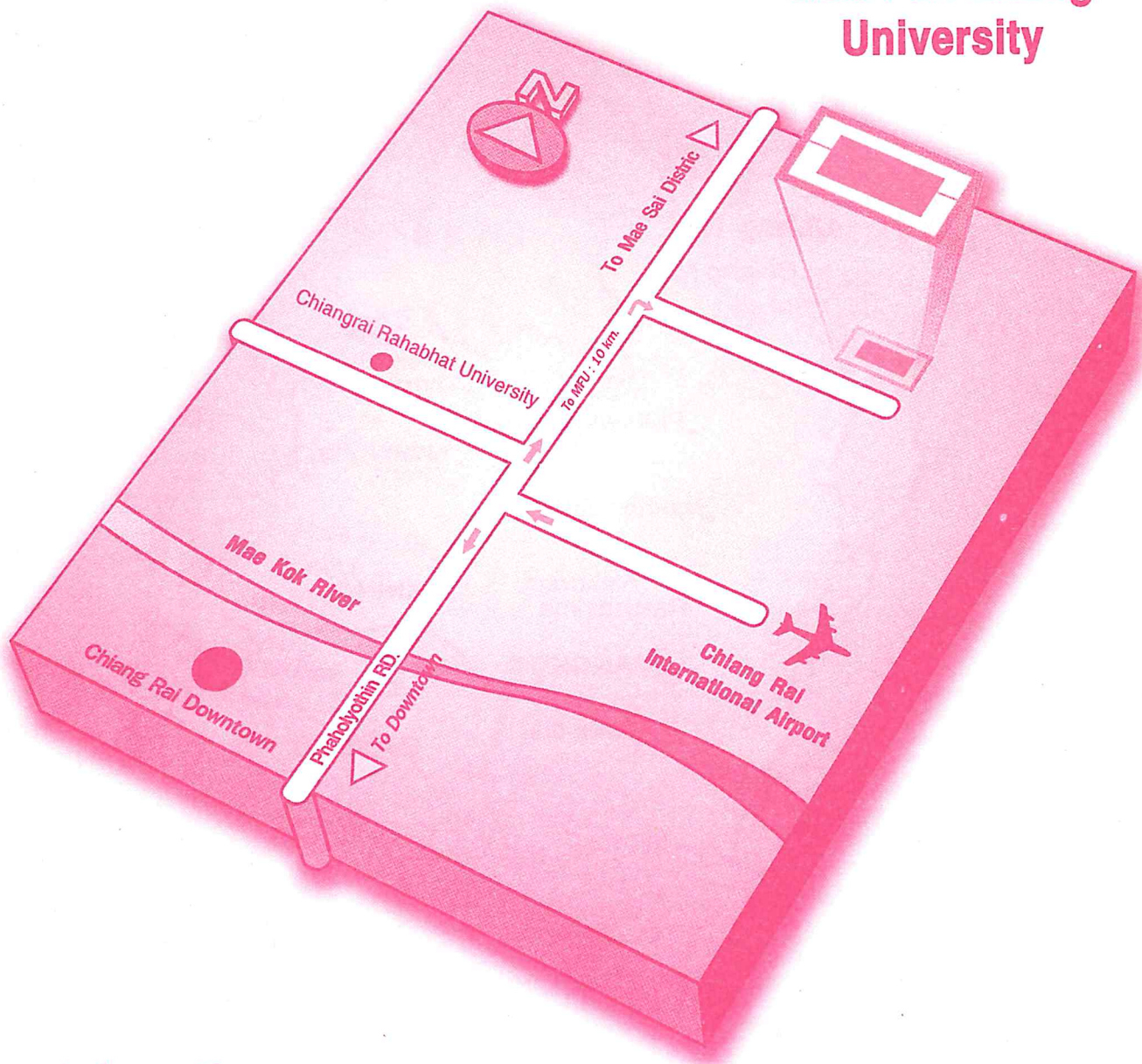
"Where Civilizations Meet"



MFU MAP



**Mae Fah Luang
University**



Information :

Distance from Downtown to MFU : 17 Km.

Distance from BKK to Chiang Rai : 860 Km.

Temperature : Summer 26-35 °C

Winter 13-26 °C

Transportation : Air/Bus



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